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Summary Report 1982

DOCTORATE RECIPIENTS FROM UNITED STATES UNIVERSITIES

HIGHLIGHTS

- A total of 31,048 research doctorates were awarded by U.S. universities in 1982, a decrease of slightly less than 1 percent from the 31,342 doctorates in 1981.

- In 1982 the number of women receiving doctorates increased to 10,057, passing the 10,000 mark for the first time and now accounting for 32 percent of the 1982 total. The largest increases in the number of women Ph.D.s occurred in the physical and life sciences.

- The number of men doctorate recipients decreased from 21,460 in 1981 to 20,991 in 1982, continuing an annual downward trend that began in 1972. Despite this overall decrease, the number of men Ph.D.s increased in the physical sciences and engineering and in professional fields.

- Since the early 1960s the proportion of U.S. citizen men in each year's cohort of new doctorates has steadily declined, from 78 percent in 1960, to 73 percent in 1970, to slightly less than 50 percent in 1982. During the same period the proportion of doctorate recipients reporting non-U.S. citizenship has increased more slowly, from 12 percent in 1960 to 17 percent in 1982.

- Over the past 25 years there has been substantial growth in the percentage of new Ph.D.s in the physical and life sciences with firm commitments for postdoctoral study, from approximately 9 percent in 1958 to nearly 40 percent in 1982. During the same period the proportion of doctorate recipients with academic appointments at the time the doctorate was completed decreased from nearly 30 to less than 10 percent in these same fields.

- In 1982 doctorate recipients in biochemistry had both the highest proportion with prior commitments for postdoctoral study (63 percent) and the lowest percentage securing academic appointments at the time of degree (5 percent) of any major field.

- For the total population of new doctorate recipients, there has been some recent improvement in the likelihood that a firm commitment will be obtained by time of doctorate. Following a steep decline over the 1968-1976 period, the percentage "still seeking" appointments has decreased slightly, from 26 percent in 1976 to 25 percent in 1982. The highest proportion "still seeking" was found in anthropology, where in 1982 over 40 percent of doctorate recipients had not secured a position by the time work on the doctorate was completed.

- Of all fields, doctorate recipients in the humanities have been most dependent on the availability of academic appointments for employment. As the proportion of new humanities Ph.D.s securing positions in academe declined in the 1970s, there have been no substantial compensatory increases in alternate employment categories, other than some small recent increases in employment in elementary/secondary education and in business and industry.

Summary Report 1982

DOCTORATE RECIPIENTS FROM UNITED STATES UNIVERSITIES

The Survey of Earned Doctorates is
conducted by the
National Research Council for the
National Science Foundation,
the U.S. Department of Education,
the National Institutes of Health, and
the National Endowment for the Humanities

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Office of Scientific and Engineering Personnel
NATIONAL RESEARCH COUNCIL

NATIONAL ACADEMY PRESS
Washington, D.C. 1983

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The survey project is part of the program of the Office of Scientific and Engineering Personnel.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

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This report is based on research conducted by the National Research Council with the support of the National Science Foundation, the U.S. Department of Education, the National Institutes of Health, and the National Endowment for the Humanities under NSF Contract No. SRS-8214433. Opinions, findings, conclusions, or recommendations expressed in this publication are those of the National Research Council and do not necessarily reflect the views of the sponsoring agencies.

Available from:

Office of Scientific and Engineering Personnel
National Research Council
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Printed in the United States of America

FOREWORD

This report presents a brief summary of the results of the 1981-82 Survey of Earned Doctorates, which has been conducted each year since 1958 by the Office of Scientific and Engineering Personnel (OSEP) of the National Research Council (NRC). Questionnaire forms, distributed with the cooperation of the graduate deans of U.S. universities, are filled in by the graduates as they complete all requirements for their doctoral degrees. The doctorates reported here were earned during the period July 1, 1981 through June 30, 1982 and include research and applied-research doctorates in all fields. Professional degrees such as the M.D., D.D.S., O.D., D.V.M., and J.D. are not covered by this survey. A full list of titles of degrees included can be found on the inside back cover.

Responses were received from 29,528 or 95 percent of the 31,048 doctorates granted in 1982. When individuals do not complete the questionnaire, abbreviated records are compiled using information from the universities' commencement bulletins. As a result, basic information, such as sex, field, institution, and year of Ph.D. is available for all of the 31,048 doctorate recipients.

This Summary Report is the sixteenth in an annual series of reports that began in 1967. Trend data from earlier periods can be found in the book A Century of Doctorates (National Academy of Sciences, 1978). All survey responses become part of the Doctorate Records File (DRF), a virtually complete data bank on doctorate recipients from 1920 to 1982. Approximately four-fifths of the 724,912 records now in the DRF have come from results of the 1958 to 1982 surveys. For doctorates granted during the 1920 to 1957 period, information was compiled from commencement bulletins, registrars' records, and other published material.

The conduct of the Survey of Earned Doctorates, the maintenance of the resulting data file, and the publication of this report are funded jointly by the National Science Foundation, the U.S. Department of Education, the National Institutes of Health, and the National Endowment for the Humanities. OSEP thanks these agencies for their support. Charles Dickens of the National Science Foundation is the project officer for the agencies; his interest, aid, and counsel are appreciated. We also express our thanks to the graduate deans in the doctorate-granting institutions for their continuing interest and assistance in this project.

The Survey of Earned Doctorates is conducted under the direction of Peter Syverson. Elise Brand has continuing responsibility for the development of the summary statistics presented in each report. In addition to Dr. Dickens of the National Science Foundation, Lou Venuto of the U.S. Department of Education, George Bowden of the National Institutes of Health, and Arnita Jones of the National Endowment for the Humanities have provided constructive advice on the design and analysis of the survey, a contribution that increases its relevance to national policy issues. William K. Estes, Lee B. Jones, and Beverly F. Porter provided valuable assistance in the review of the report. Special appreciation also goes to Doris Rogowski, who supervised the coding and editing of the data; to Joseph Finan and George Boyce, who were responsible for the computer programming and processing; and to Rebecca Beason, for her many contributions to this report.

OSEP is concerned with those activities of the NRC that contribute to the more effective development and utilization of the nation's scholars and research personnel. Its programs seek to strengthen higher education and to develop better understanding of the educational process. It is hoped that prompt reporting of the present data to educational, governmental, and professional agencies will facilitate planning in higher education. Suggestions for improvement of the content or format of the report and questions or comments are welcome. Such communications may be directed to the Office of Scientific and Engineering Personnel, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

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INTRODUCTION

Selected statistics from the 1982 Survey of Earned Doctorates and from past surveys are highlighted in this report. Following a brief description of trends in the earning of doctorates by field and sex is a special section that focuses on the postgraduation plans of new doctorate recipients. This analysis section describes first, trends over the past 25 years in the expectations of new doctorate recipients for postdoctoral study or employment, including details on the planned employment sector. To further explore the transition from doctoral study to employment, a comparison is made of the postgraduation plans of a sample of 1980 Ph.D.s with their actual employment status in the year following receipt of the doctorate. Data about employment status were obtained from responses to the 1981 Survey of Doctorate Recipients--a sample survey of the career patterns of doctoral scientists, engineers, and humanists.

Earlier reports in the Summary Report series presented highlights on the sources of support used by doctorate recipients to finance their graduate studies (1981) and on the characteristics of non-U.S. citizen doctorate recipients--their countries of citizenship, fields of study, sources of support in graduate school, and postdoctoral employment and study plans (1980).

FIGURE 1 Doctorates Awarded by United States Universities, 1960-1982. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TEXT TABLE A Doctorates Awarded by United States Universities, 1960-1982

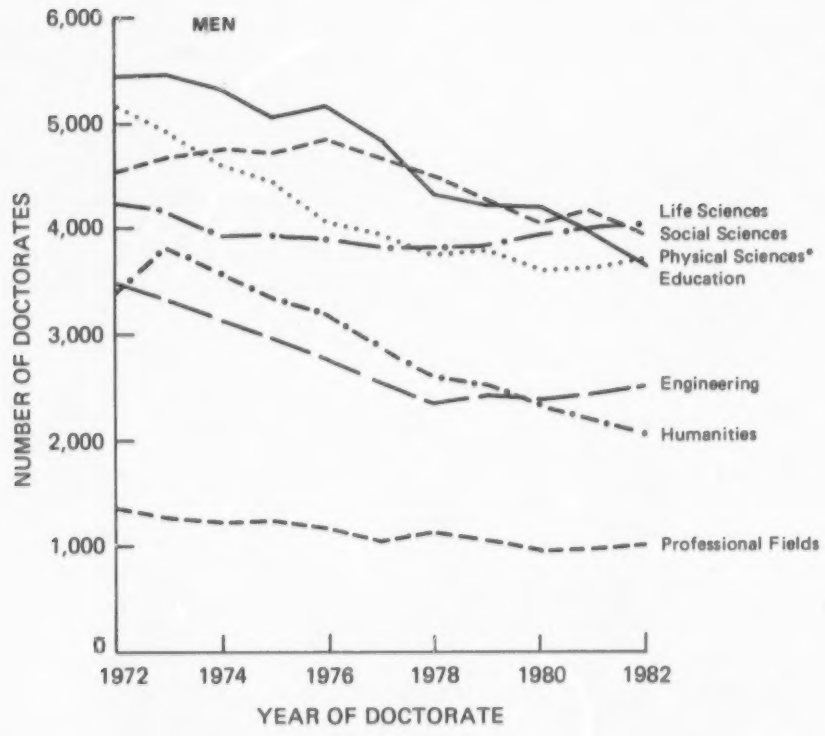
Year	Number	Year	Number	Year	Number
1960	9,733	1970	29,498	1980	31,013
1961	10,413	1971	31,867	1981	31,342
1962	11,500	1972	33,043	1982	31,048
1963	12,728	1973	33,755		
1964	14,325	1974	33,047		
1965	16,340	1975	32,951		
1966	17,949	1976	32,946		
1967	20,403	1977	31,718		
1968	22,936	1978	30,873		
1969	25,743	1979	31,235		

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File

TRENDS IN THE NUMBER OF DOCTORATES GRANTED TO MEN AND WOMEN BY FIELD

Between July 1, 1981 and June 30, 1982, a total of 31,048 research doctorates were awarded by U.S. universities, a decrease of 294 or slightly less than 1 percent from the 31,342 doctorates granted in 1981. This small change continues the trend for slight variations in the total number of doctorates around a mean of about 31,200 over the past 6 years. Text Table A and Figure 1 show the peak year for awarding doctorates to have been 1973; since then, the overall number has declined by some 8 percent to a level roughly equivalent to the number in 1971. The years prior to 1973 saw a rapidly increasing number of doctorates granted each year across all major fields, with the number more than tripling between 1960 and 1970.

While the overall number of doctorates awarded has remained roughly steady during the past 6 years, the same period has been witness to significant changes in the distribution of doctorate recipients by both sex and field of degree (Text Table B and Figure 2). The trend for both an increasing number and percentage of doctorates awarded to women began in 1965, when 11.8 percent of doctorates were granted to women, and continued through 1982, with the number of women surpassing the 10,000 mark and now accounting for 32 percent of the 1982 doctorate recipients. Although the total number of doctorates has decreased 8 percent from the peak year of 1973, the 10,057 women Ph.D.s in 1982 represent a 65 percent increase in the same 10-year period.



*Includes mathematics and computer sciences.

FIGURE 2 Number of Doctorates Awarded by United States Universities by Broad Field and Sex, 1972-1982. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

The growth in the number of women earning doctorates from 1981 to 1982 is reflected in four of the seven fields included in Text Table B. The largest numerical increases for women doctorates were in the life and physical sciences, especially in the areas of agricultural, medical, and earth sciences. Although still small, the number of doctorates earned by women in engineering has increased rapidly in recent years, doubling in the four years from 1979 to 1982. Women in the humanities continued their downward trend in number, and the numbers in social sciences and education decreased for the first time since 1962. Although small, these decreases are notable because education and the social sciences have been the two areas responsible for most of the growth in numbers of women doctorates over the past decade.

For men the 2 percent decrease from 21,460 in 1981 to the 20,991 reported here represents a continuation of the steady downward trend in the number of men doctorates from the 27,756 doctorates granted in 1972. While the overall figure declined, the number of men Ph.D.s increased in physical sciences, engineering, and other professional fields. The life sciences maintained a steady number of Ph.D.s from 1981 to 1982 and is now the largest broad field for men doctorate recipients, replacing the social sciences which has declined from 4,856 Ph.D.s in 1976 to 3,959 in 1982. The number of education doctorates granted to men dropped 255, or 6 percent, from the 1981 figure. Education, now the fourth-largest field for men, has decreased 32 percent from its peak year of 1973. The field experiencing the largest decline from peak year is the humanities, where the annual number of men doctorates has decreased 46 percent from the 3,817 granted in 1973.

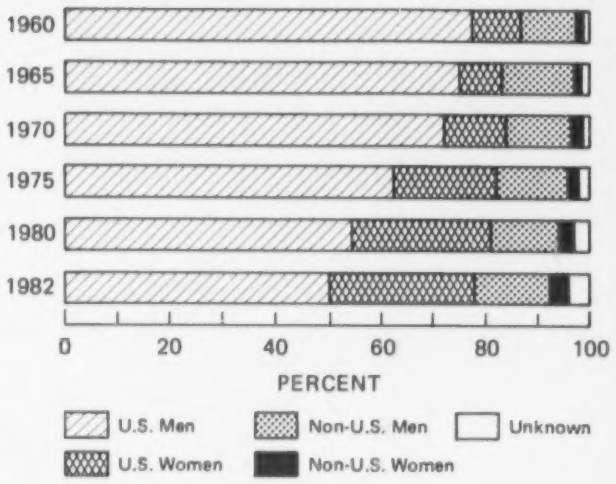


FIGURE 3 Citizenship Status and Sex of 1960-1982 Doctorate Recipients. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

The changing patterns of two demographic variables--sex and citizenship--among new doctorate recipients are illustrated in Figure 3 and Text Table C. While the composition and size of the non-U.S. citizen population has remained roughly stable, the relative proportions of men and women U.S. citizens have changed substantially from 1960 to 1982. The proportion of men in the annual cohort of new doctorates has declined markedly, from 78 percent in 1960, to 73 percent in 1978, to slightly less than 50 percent in 1982. During the same period the proportion of U.S. women has increased from 9 to 28 percent. The non-U.S. citizen group, which has grown slightly from 12 to 17 percent in the last 23 years, has remained predominately male (84 percent in 1982 were men) during that time.

TEXT TABLE B Number of Doctorates Awarded by United States Universities by Broad Field and Sex, 1972-1982

Year	Total		Physical Sciences*		Engineering		Life Sciences		Social Sciences		Humanities		Professional Fields		Education	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
1972	27,756	5,287	5,171	367	3,481	22	4,221	731	4,558	1,053	3,440	1,274	1,348	184	5,439	1,646
1973	27,670	6,085	4,929	382	3,318	46	4,140	868	4,692	1,246	3,817	1,547	1,258	201	5,455	1,783
1974	26,594	6,453	4,592	384	3,114	33	3,967	867	4,727	1,446	3,594	1,576	1,226	194	5,302	1,939
1975	25,750	7,201	4,454	403	2,950	52	3,955	950	4,711	1,600	3,359	1,687	1,243	208	5,064	2,295
1976	25,262	7,684	4,089	420	2,780	54	3,922	959	4,856	1,734	3,208	1,673	1,189	290	5,185	2,540
1977	23,860	7,858	3,949	430	2,569	74	3,817	957	4,691	1,837	2,903	1,659	1,045	308	4,870	2,585
1978	22,552	8,321	3,754	439	2,370	53	3,809	1,086	4,510	1,955	2,635	1,596	1,128	330	4,339	2,855
1979	22,299	8,936	3,803	496	2,428	62	3,888	1,196	4,283	2,109	2,547	1,592	1,058	366	4,277	3,107
1980	21,607	9,406	3,609	502	2,389	90	3,990	1,347	4,085	2,168	2,336	1,532	982	376	4,202	3,383
1981	21,460	9,882	3,667	503	2,429	99	4,021	1,446	4,196	2,316	2,200	1,548	964	423	3,956	3,539
1982	20,991	10,057	3,714	574	2,520	124	4,023	1,542	3,959	2,291	2,050	1,510	1,004	487	3,701	3,525

*Includes mathematics and computer science.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TEXT TABLE C Citizenship Status and Sex of 1960-1982 Doctorate Recipients

Year	Total	Citizenship				Unkn
		U.S.		Non-U.S.		
		Men	Women	Men	Women	
1960	9,733	7,556	913	1,060	116	88
		77.6*	9.4	10.9	1.2	0.9
1965	16,340	12,245	1,527	2,130	183	255
		74.9	9.3	13.0	1.1	1.6
1970	29,498	21,430	3,485	3,718	430	435
		72.6	11.8	12.6	1.5	1.5
1975	32,951	20,662	6,419	4,599	651	620
		62.7	19.5	14.0	2.0	1.9
1980	31,013	16,871	8,346	4,125	809	862
		54.4	26.9	13.3	2.6	2.8
1982	31,048	15,522	8,787	4,520	893	1,326
		50.0	28.3	14.6	2.9	4.3

*Horizontal percentage based on the total number of doctorates in each year.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

POSTGRADUATION STUDY AND EMPLOYMENT PLANS OF DOCTORATE RECIPIENTS

Beginning with the first doctoral survey in 1958, one of the more important series of questions on the Survey of Earned Doctorates has been those items concerned with the plans of doctorate recipients for employment or further study at the time the doctorate is completed. Responses to these questions on postgraduation plans provide basic data concerning the perceptions of employment opportunities available to new doctorate recipients. Not only are such data useful in planning and policy analysis at university, state, and national levels, but they may also influence the career expectations of students at earlier stages of the doctoral pipeline. In addition, to the extent that these plans prove to be accurate representations of the future activities of doctorate recipients, they may also be of use in monitoring changes in the actual employment situation for new Ph.D.s on a year-to-year basis.

The postgraduation plans of new doctorates have been a recurring theme in recent Summary Reports, appearing in both the 1976 and 1979 reports. In the analysis section below, the time series data presented in the earlier reports is extended to 1982 but with two significant emendations. First, detail on the type of employer is provided for those Ph.D.s who reported having a definite employment commitment ("signed contract" or "returning to predoctoral employer"). Second, and more importantly, the full range of postgraduation plans data from the first doctorate questionnaire to the present survey is included in this presentation. Since revisions were made to the items on postgraduation plans during the beginning of this 25-year period, certain inconsistencies were created in the data, particularly concerning the firmness of postdoctoral study plans and the type of employer for those traveling abroad for first employment. An explanation of the changes made to early versions of the questionnaire and a discussion of the effects of these changes on the tabular data are provided in the footnotes to Text Table D. These inconsistencies must be treated with some caution when interpreting the pre-1969 data. However, the changes in postgraduation plans over the past quarter-century described below are sufficiently robust as to overwhelm any perturbations in the early years' data.

The section following is concerned with the related question of the relationship between postgraduation plans reported in the survey and their realization in the year after receipt of the doctorate. Since 1973 the NRC has conducted a follow-up survey of a sample of the professionally active doctoral population, including some of each year's doctorate recipients, in science, engineering, and the humanities. This longitudinal survey, known as the Survey of Doctorate Recipients (SDR), has followed the careers of a 42-year cohort of doctorate recipients through a series of biennial surveys conducted from 1973 to 1981. This second section presents a comparison between the plans reported by some of the respondents to the 1980 doctorate survey and their activities as reported by the same individuals in the 1981 SDR approximately one year later.[1] This comparison provides a measure of the predictive reliability of the doctorate recipients' expectations at about the time the doctorate is completed.

[1] A description of the latest SDR can be found in the report: National Research Council, Science, Engineering, and Humanities Doctorates in the United States: 1981 Profile, National Academy Press, Washington, D.C., 1982.

Long-term Trends in Postgraduation Plans

During the 25 years between 1958 and 1982, considerable change has taken place in the expectations and opportunities available to new doctorate recipients. Displayed in Text Table D and Figure 4 are data on the employment and study plans of new doctorates at the time that they completed the Survey of Earned Doctorates questionnaire. The data stem from three questions on the survey form: 17--postdoctoral status, 18--postdoctoral plans, and 20--type of employer.[2]

Text Table D presents data on the total population of new doctorates and on 14 selected field groups. Such fields as physics, chemistry, and history were chosen as representative of the major disciplines within each broad area of study, with the subfields biochemistry and anthropology included because of the dramatic changes in postgraduation plans that have taken place in those fields.

Overview. Looking first at the "Total All Fields" section of Table D, a number of patterns emerge that will be reflected, to different degrees, in the field detail that follows. The proportion of doctorate recipients still seeking an appointment at the time the questionnaire was completed was fairly steady, between 13 and 14 percent, until the early 1970s when that portion increased rapidly to a peak of 26 percent in 1978. Since then, the percentage has decreased somewhat to 25 percent in 1982, with about one-fifth of these new doctorates seeking postdoctoral study appointments and the remainder seeking employment.

While the total proportion with definite plans decreased from 84 percent in 1966 to 69 percent in 1982, the percentage with definite plans for postdoctoral study has steadily increased from 11 to 14 percent over the same period. Despite the slight decrease in number of doctorates from the peak of 33,755 in 1973 to the present 31,048, the number of individuals with postdoctoral study commitments has increased 9 percent--from 3,866 in 1973 to 4,214 in 1982. Since their peak years in the mid- to late-1960s, the percentage of doctorate recipients with commitments for academic employment has decreased more rapidly than the figures for all individuals with definite employment plans. The percentage with academic appointments rose slowly to 44 percent in 1968 and since then has declined about one-third, to 28 percent of all new Ph.D.s. Employment in elementary/secondary schools, sought for the most part by doctorates in the field of education, dropped to a low of 3 percent in the beginning of the 1970s but has since returned to its 1958 level of 5 percent. The number of doctorate recipients going on to employment in elementary/secondary education nearly doubled during the 1968 to 1982 period.

In nonacademic areas, employment in business and industry has decreased from 13 percent in 1958 to a low of 6 percent in 1972, with subsequent increases through 1982. The number of Ph.D.s finding employment in business and industry has nearly doubled in the last decade--from 1,896 in 1972 to 3,467 in 1982. Employment in nonprofit settings followed a similar path, with decreases to the early 1970s, a few years after academic hiring had reached its peak, and increases through the present time. The proportion of new doctorates with firm commitments for employment in government reflected a somewhat different pattern, remaining roughly steady throughout the 25 years with a slight decrease during the last 10 years.

Science and Engineering. The experience of the total doctoral population of new doctorates--the shift from immediate employment to postdoctoral study and the decline in academic employment with resultant increases in other types of employment settings--is found with even more intensity in certain physical science fields (physics, chemistry, and mathematics). In physics the percentage of individuals seeking appointments increased through the mid-1970s, with some decline from 1976 to 1982. The most dramatic change over the 25-year period is the almost precise interchange of the percentages of new doctorates with firm postdoctoral study with those with academic employment commitments. In 1958, 9 percent of physics and astronomy Ph.D.s had commitments for postdoctoral study, and 31 percent had academic appointments; in 1982 the percentages are almost

[2] The "seeking appointment" group in Text Table D includes all persons who responded "2," "3," or "4" to questionnaire item 17 (see page 45). Those individuals who also responded "0," "1," "2," or "3" to item 18 are tabulated as "seeking study." The "seeking employment" group includes those who also indicated any of the remaining responses to item 18. Doctorate recipients who responded "0" or "1" in item 17 are classified as having "definite commitments." The study and employment groups are separated by using the same criteria as for doctorates seeking appointments. All persons who did not respond to item 18 are classified as "unknown."

exactly reversed--33 percent for postdoctoral study and 9 percent for academic employment. The crossover occurred primarily in the 1968-1970 period. It should be noted, however, that the changes in the question on postdoctoral plans that occurred in 1968 are likely to account for some of the increase in study plans (see Text Table D footnotes). Employment in business and industry, to which nearly one-quarter of 1958 physics Ph.D.s had firm commitments, declined to a low of 6 percent in 1972 but has since increased to the current 18 percent. The percentage with definite plans for employment in government peaked in the 1972-1974 period but has since declined.

Of the physical science fields included in Text Table D, chemistry has had the lowest proportion of new doctorates still seeking appointments at the time the doctorate is completed, peaking at 22 percent in the mid-1970s and dropping to 16 percent in 1982. As in physics, the plans of those seeking appointments are evenly split between study and employment. The percentage of new chemistry doctorates with postdoctoral study appointments has shown more gradual changes than in physics, at nearly 41 percent in the 1970s but now down to 31 percent. Immediate employment in academe, which since the early 1960s has generally been the third largest area of postgraduation activity behind study and business, accounted for only 7 percent of chemistry doctorates in 1982. Employment in business and industry, which dropped to 11 percent of chemistry doctorates in 1972 from 50 percent in 1958, has risen substantially in the last decade; by 1982 more than one-third of the new doctorates had definite commitments for employment in that sector.

The employment patterns of mathematics Ph.D.s differ from those of physical science doctorate recipients in a number of ways. First, although the percentage of 1982 mathematics doctorates still seeking appointments has been near the same level as for physics (24 percent), in the mid-1970s mathematics had the highest proportion still seeking appointments: nearly 1 in 3 new doctorates did not have a firm commitment at time of doctorate. Far fewer postdoctoral study appointments are available in mathematics than in physical science fields. In the 1958 to 1982 period the percentage of mathematics Ph.D.s with study appointments remained fairly steady in the 5 to 9 percent range, with some recent increases to 11 percent in 1982. Change in the percentage with definite academic employment has also been gradual, with an overall increase through the late 1960s followed by an uneven decrease to 44 percent in 1982. Other notable areas of employment for mathematics Ph.D.s are business and industry as well as government, accounting for about 9 and 6 percent of 1982 Ph.D.s, respectively.

As in mathematics, a relatively small proportion of doctorate recipients in engineering have plans for postdoctoral study. In recent years approximately 13 percent of engineering Ph.D.s have planned postdoctoral study, with about three-fifths of this group having firm commitments for postdoctorals. The percentage of new Ph.D.s still seeking employment has been slightly higher than for the total doctorate population, with a peak of 22 percent in 1976, and now at 20 percent in 1982. This finding reflects the large non-U.S. component in engineering whose plans are more likely to be indefinite at the time of doctorate than their U.S. counterparts. Employment in academe has decreased for new doctorate recipients over the last two decades, from 32 percent in 1960 to a current rate of 17 percent. Business and industry remained the predominant employer of engineering doctorates, with firm commitments in that sector accounting for about one-third of new doctorate recipients over the 1958-1982 period. The percentage of new engineering doctorates with firm commitments for employment in government has tended to increase during this time, peaking in the early 1970s and in recent years ranging between 8 and 11 percent.

The life science fields displayed in Table D--biochemistry, other biosciences, and medical sciences --reflect the substantial growth of the postdoctoral as a major step in the career patterns of new Ph.D.s. In biochemistry, for example, undertaking postdoctoral study has become the norm, with about two-thirds of recent doctorates having firm commitments for study and an additional 15 percent seeking postdoctorates but having no firm commitments. In fact, biochemistry has the largest percentage planning postdoctoral study of all major fields. In contrast, employment in academe directly following receipt of the Ph.D. has become the exception for biochemistry doctorates; the percentage with definite employment commitments in academe has dropped from about 28 percent in 1960 to less than 5 percent since 1976. Some recent increases can be seen in the percentage with employment commitments in business and industry, up from 3 percent in 1976 to 7 percent in 1982, along

with steady decreases in government employment over the 1958-1982 period.

Similar though less dramatic trends hold true for other life science doctorate recipients. Nearly one-half of the 1982 doctorates in other biosciences held firm commitments for postdoctoral study with 12 percent still seeking postdoctoral appointments. The percentage with academic appointments decreased steadily from 41 percent in 1958 to 12 percent in 1982. The medical sciences show a somewhat more even distribution between postdoctoral study and academic employment, with 30 percent in 1982 having firm postdoctorate commitments and 21 percent obtaining academic appointments. Nevertheless, new doctorates in the medical sciences have shifted into postdoctoral study and away from the academic employment characteristic of the group in the early 1960s. Here too, as in other biosciences, there have been increases in business and industry employment in recent years.

In contrast to other science fields, doctorate recipients in the social sciences have considerably fewer opportunities for study following the doctorate. In psychology only 1 in 10 Ph.D.s in 1982 had firm study commitments, with another 5 percent still seeking such appointments. The percentages planning postdoctoral study vary considerably by subfield of psychology. For example, 58 percent of 1982 doctorate recipients in physiological psychology had secured postdoctoral study positions in contrast to the 10 percent of clinical psychology Ph.D.s. with similar plans. The proportions of psychology doctorates seeking appointments have been greater than the science fields described earlier. During the past 8 years over one-quarter of all psychology Ph.D.s did not have a firm commitment at time of doctorate. The number of academic appointments for psychologists, which increased in the 1960s, has declined from a peak of 41 percent in 1968 to a current low of 18 percent. Commitments for employment in government have also declined in recent years, following a cyclical pattern of high points in the early 1960s and 1970s. Some compensatory increases have occurred in the other employment categories for psychologists, the largest being in the nonprofit area, which is composed for the most part of clinical and counseling psychologists working in hospitals and clinics.

Of all Table D fields, anthropology has experienced the sharpest changes in the status of postdoctoral plans of new doctorate recipients. In 1982 over 40 percent of anthropology doctorate recipients were still seeking appointments at the time the doctorate was completed. Not only is this the highest percentage for all major fields, but the figure also has shown a steady increase from the 12 percent in 1972 and may not yet have reached a peak. The only significant area of employment for anthropologists during the last 25 years has been academe, in which the percentage of new Ph.D.s with firm commitments was highest in 1968 (at 73 percent), declining to 28 percent in 1982. The decrease in numbers of academic appointments for new Ph.D.s has been no less striking, from a peak of 225 in 1974 to 94 in 1982.

In contrast, employment prospects for economists have remained far more steady over the same period. The proportion of those without definite commitments peaked in the late 1970s at 19 percent and since then has leveled off at about 16 percent. Approximately one-half of new economics Ph.D.s have secured academic appointments by the time they complete the survey form, down somewhat from the peak of 63 percent in the early 1970s. Since 1970 a growing percentage of economics doctorate recipients has found employment in business and industry, as well as in government.

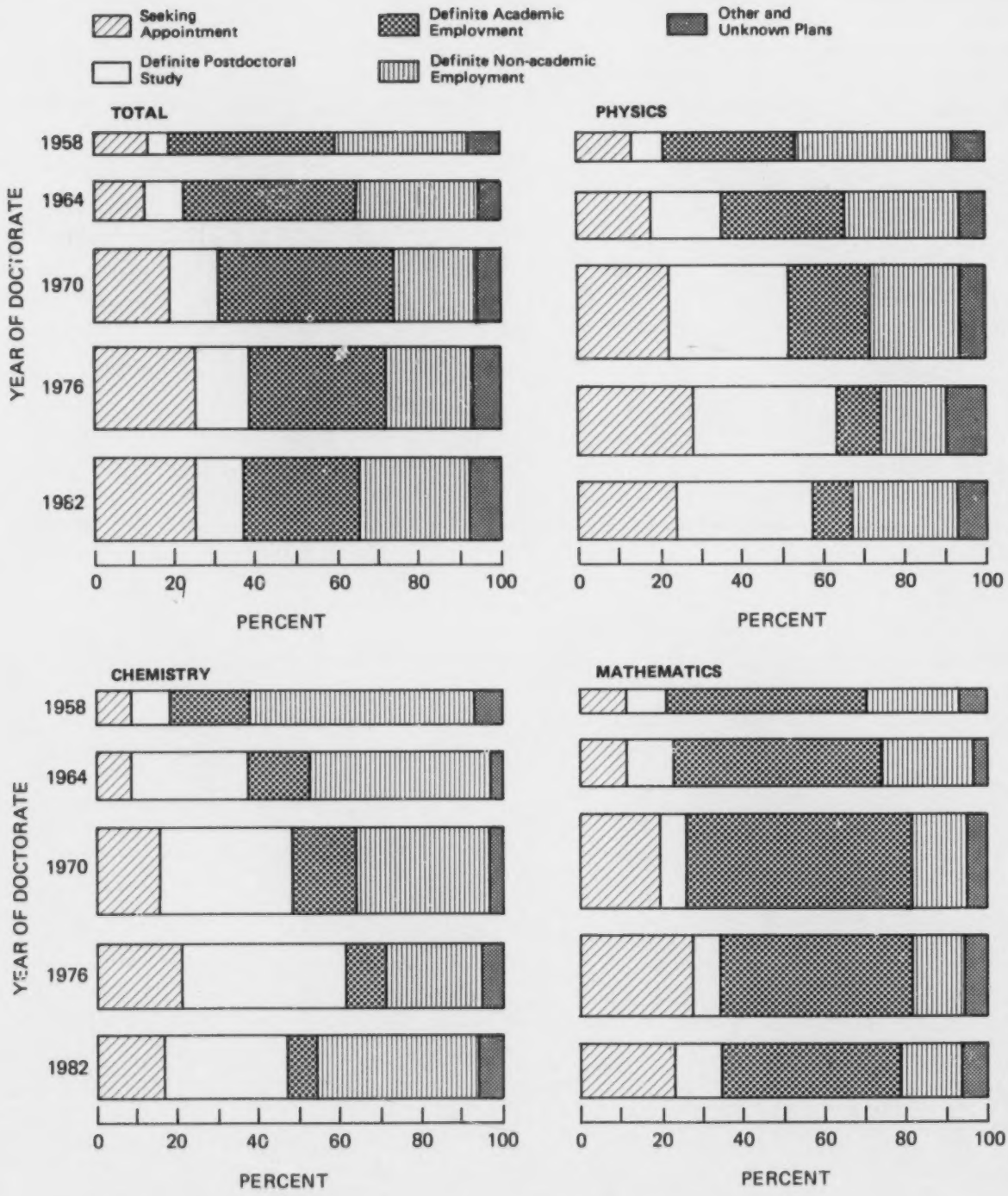
Humanities. As in anthropology, the strong dependence of humanities Ph.D.s on academic employment, coupled with the downturn in academic hiring in the 1970s, has resulted in substantial increases in those without firm commitments for employment. In fact, with the exception of anthropology, the humanities fields have experienced from the mid-1960s to the present the largest increases in proportions of doctorate recipients still seeking employment or study upon completion of the doctoral degree. In each of the three humanities fields displayed in Table D, at least one-third of the 1976-1982 doctorate recipients were still seeking employment at time of doctorate. As in the social sciences, only a very few postdoctoral study appointments are available to humanities Ph.D.s. Employment patterns in the three humanities fields exemplify the strong ties between academic hiring and employment oportunities. In history the peak years for percentages of new doctorates to have firm commitments for academic employment--1964 through 1968--coincide with the period of lowest percentages of doctorate recipients still seeking appointments. Following the 1968 peak of 75 percent with definite academic appointments, the percentage

for history dropped rapidly through the early 1970s to the 46 percent in 1974, subsequently declining to 36 percent in 1982. During the same period there have been no major compensatory increases in alternate employment categories, other than some small recent increases in employment in elementary/secondary education and in business and industry.

The proportion of new doctorates in English and American language and literature still seeking appointments at the time of doctorate has remained high since the early 1970s. However, there has been some increase in the past 6 years in the percentage with academic appointments, from a low point of 44 percent with firm commitments for academic employment in 1978 to 50 percent in 1982. This, however, is still 30 percentage points below the 1966 to 1968 levels of 80 percent securing appointments in academe, which was the highest percentage of any of the major fields over the 1958 to 1982 period. Here too, there have recently been some slight increases in the percentages finding employment in nonacademic settings--business, government, and elementary/secondary schools.

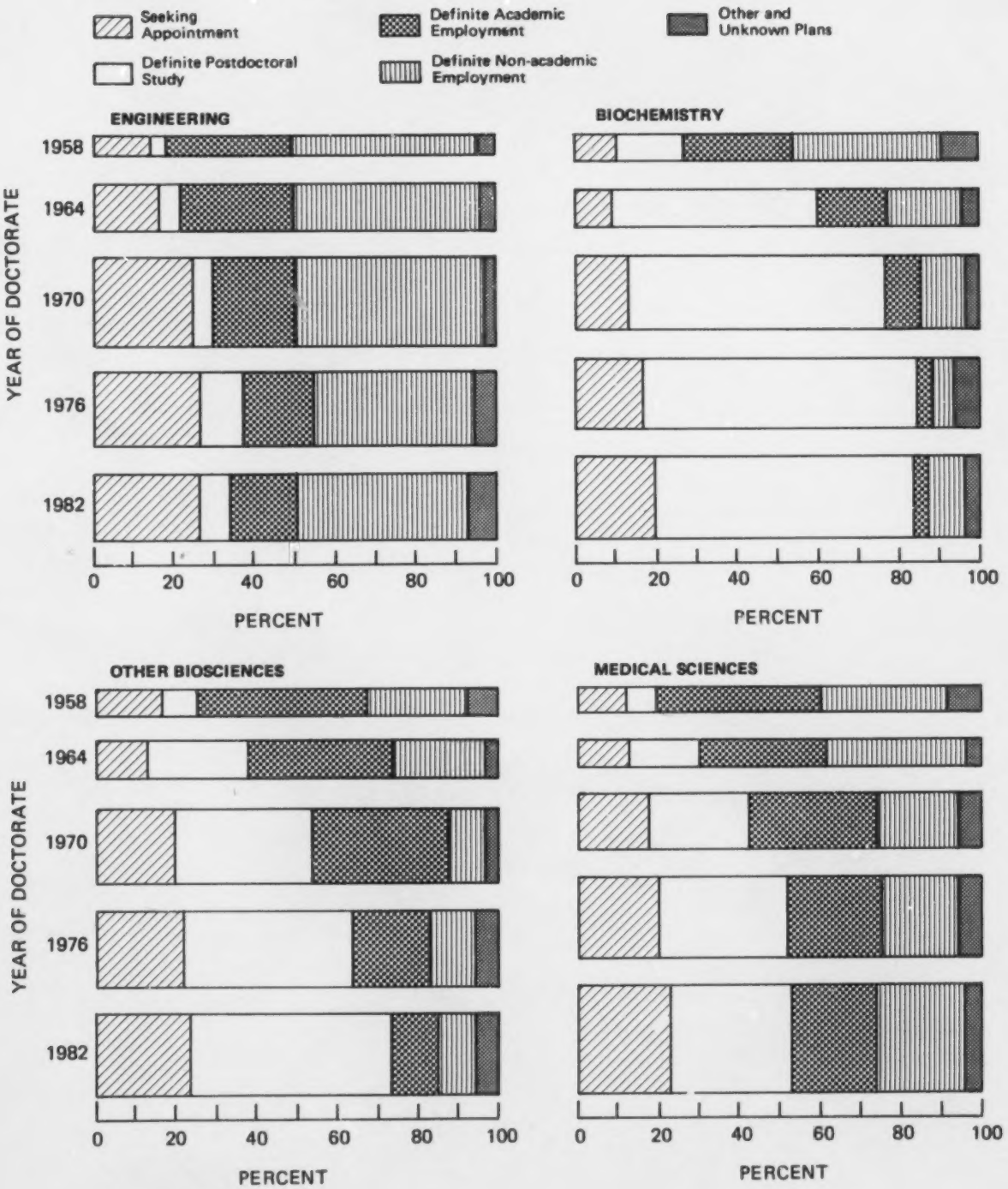
Although in 1980 foreign language and literature was the field with the greatest proportion of doctorates still seeking appointments (42 percent), a new pattern may be emerging for doctorates in that field. From 1980 to 1982 both the percentage and number of new doctorate recipients in foreign languages securing academic positions by the completion of doctoral study increased. If the number of doctorates in this discipline continues to decrease annually, as it has since the mid-1970s, the percentage with academic positions could increase even if hiring at colleges and universities remains at current levels. These developments would serve to reverse the strong downward trend experienced since the mid-1960s in proportions with firm commitments for employment in academe.

Education. Prospects for employment for new education doctorate recipients have reflected trends typical of the other Table D fields. The proportion still seeking appointments increased slowly through the 1960s and 1970s, peaking in 1978 with some attenuation to 1982, when a still substantial 25 percent were without firm commitments at the time the doctorate was earned. The availability of academic positions has suffered the greatest decrease, accounting for just 32 percent of new doctorates in 1982, down from a peak of over 50 percent at the end of the 1960s. Not surprisingly, education doctorates are the most likely group to find employment in elementary/secondary schools, and this percentage has increased in recent years. The percentages seeking employment in the business and nonprofit sectors also have increased over the last decade.



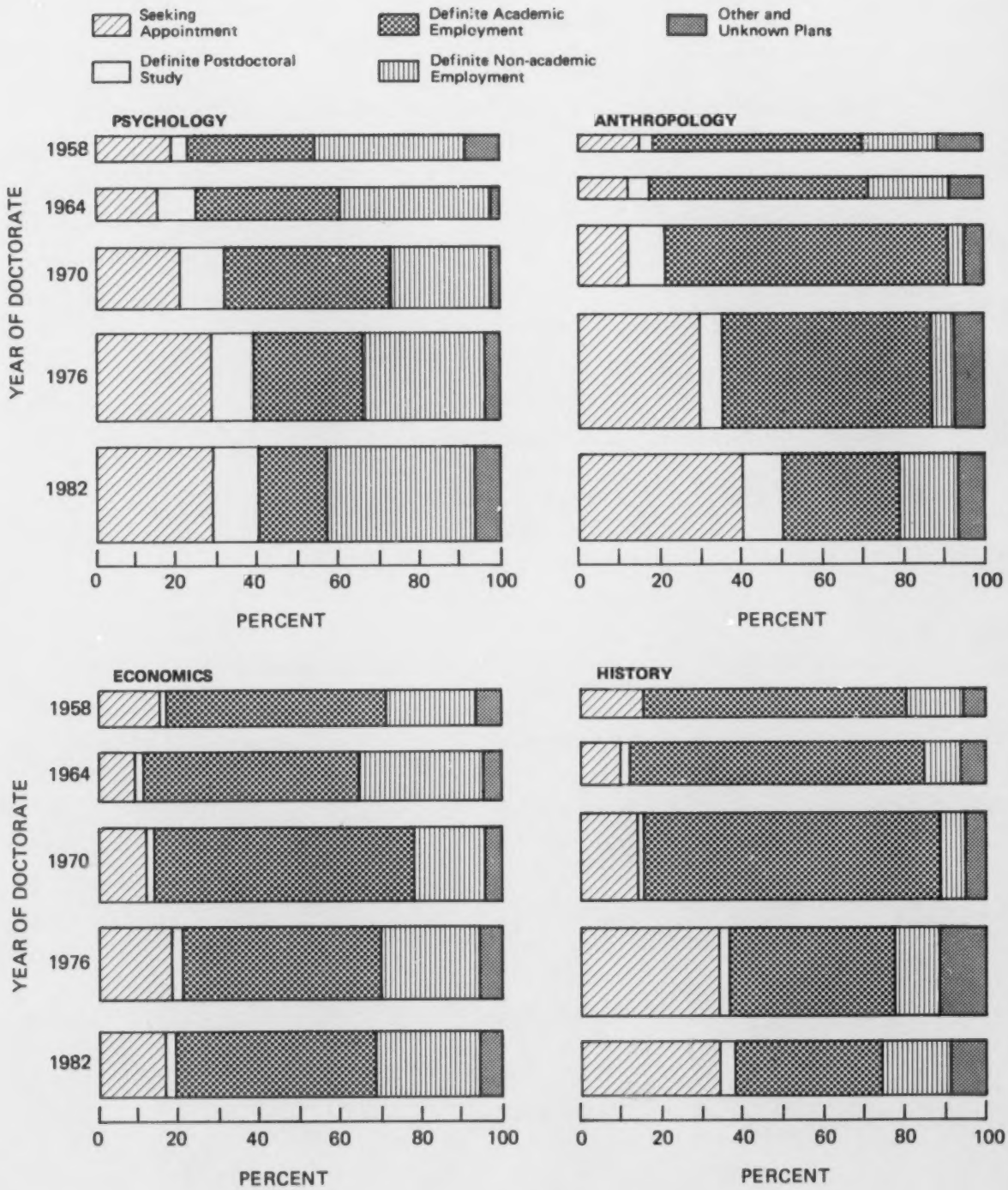
NOTE: The thickness of each bar is proportional to the number of doctorates granted in the field of study.

FIGURE 4 Postgraduation Plans of 1958-1982 Doctorate Recipients by Field of Study.
SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.



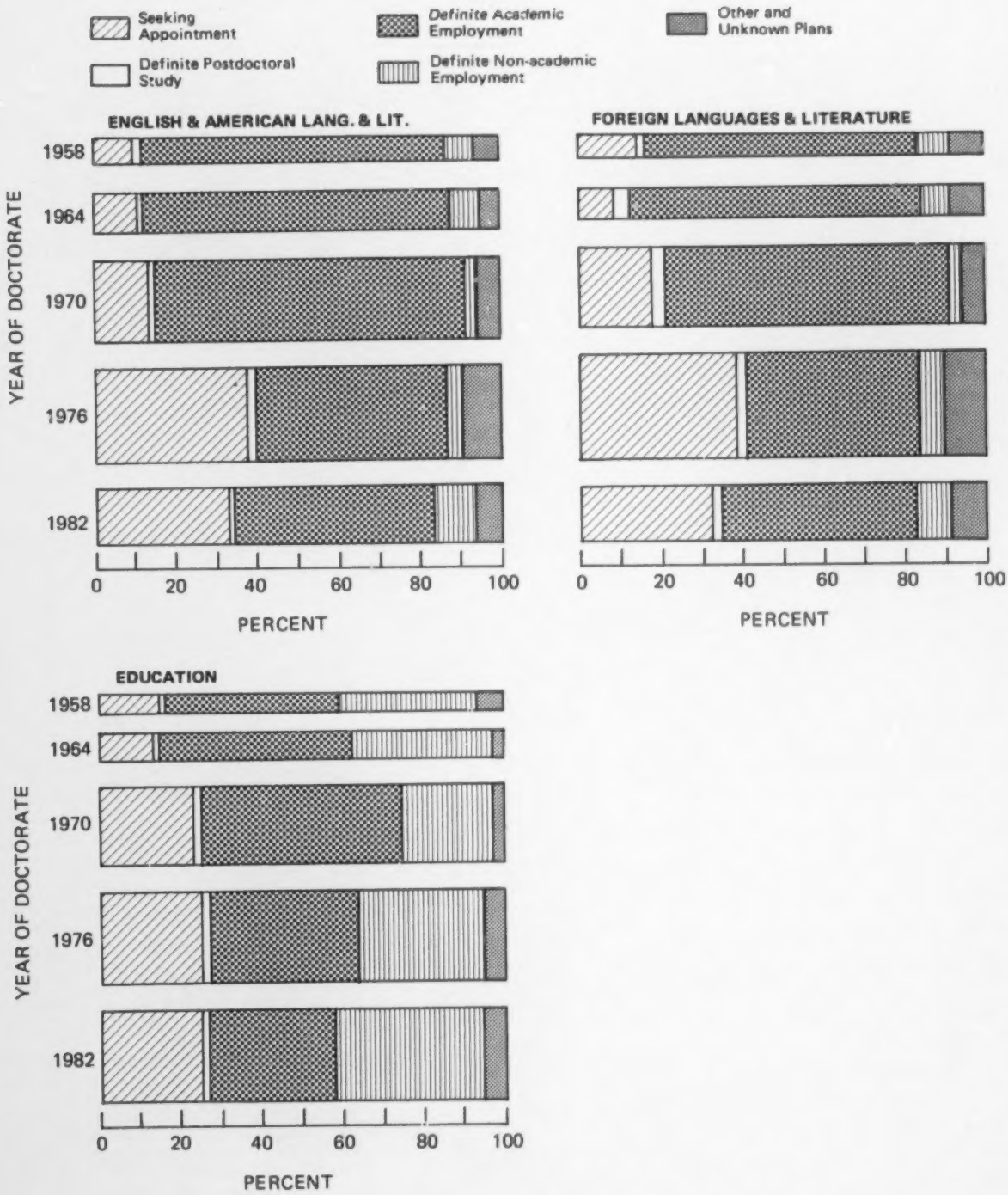
NOTE: The thickness of each bar is proportional to the number of doctorates granted in the field of study.

FIGURE 4 (continued)



NOTE: The thickness of each bar is proportional to the number of doctorates granted in the field of study.

FIGURE 4 (continued)



NOTE: The thickness of each bar is proportional to the number of doctorates granted in the field of study.

FIGURE 4 (continued)

TEXT TABLE D Postgraduation Plans of 1958 to 1982 Doctorate Recipients for Selected Fields of Study

Postgraduation Plans	Year of Doctorate												
	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982
Total All Fields	8,773	9,733	11,500	14,325	17,949	22,936	29,498	33,043	33,047	32,946	30,873	31,013	31,048
Seeking Appointment	14.3*	13.9	13.9	13.0	11.7	13.7	19.4	21.6	23.9	25.7	25.7	23.7	24.7
Postdoctoral Study+	.0	.0	.0	.0	.0	.4	2.9	3.8	4.4	4.4	4.8	4.6	5.0
Employment	14.3	13.9	13.9	13.0	11.5	13.3	16.5	17.8	19.6	21.3	20.9	19.2	19.7
Definite Plans	78.4	83.9	83.2	82.5	83.6	82.5	76.1	71.6	66.9	67.6	67.0	70.3	68.5
Postdoctoral Study	4.4	7.2	9.9	10.1	10.7	10.5	11.7	11.7	10.3	12.2	13.2	13.8	13.6
Employment	74.0	76.7	73.3	72.4	73.0	72.0	64.4	59.9	56.7	55.4	53.8	56.5	54.9
Academe	41.5	43.6	41.0	42.3	43.4	44.4	43.1	40.2	35.2	33.5	30.7	29.7	27.7
Elem/Secondary	4.9	4.4	4.6	3.9	3.7	3.5	2.6	3.9	4.0	4.8	4.4	5.3	5.1
Bus/Industry	13.0	12.9	10.8	10.0	10.3	10.1	9.2	5.7	7.1	6.4	7.9	9.7	11.2
Government	6.3	6.1	5.6	4.9	4.3	4.9	6.1	7.3	7.2	7.2	6.9	7.4	6.6
Nonprofit	3.0	2.9	3.1	2.8	2.6	2.4	2.3	2.2	2.7	3.0	3.4	3.8	3.8
Othr & Unkn Empl#	5.3	6.8	8.2	8.5	8.6	6.7	1.1	.5	.5	.5	.5	.5	.5
Plans Unknown	7.2	2.2	2.9	4.5	4.8	3.8	4.5	6.8	9.1	6.7	7.4	5.9	6.8
Physics & Astronomy	497	530	710	866	1,061	1,436	1,655	1,634	1,339	1,237	1,067	983	1,013
Seeking Appointment	13.3*	15.5	18.0	17.8	16.7	17.8	22.8	22.8	27.7	28.5	23.1	20.2	24.3
Postdoctoral Study+	.0	.0	.0	.0	.0	.9	8.2	9.0	12.6	13.3	11.0	9.8	12.5
Employment	13.3	15.5	18.0	17.7	16.4	16.9	14.6	13.8	15.1	15.1	12.2	10.5	11.7
Definite Plans	78.5	82.1	77.6	76.1	77.2	77.2	71.3	68.2	62.9	61.8	69.9	72.7	68.5
Postdoctoral Study	8.9	10.9	17.5	17.9	23.5	19.8	29.4	32.6	32.5	35.1	38.3	38.7	33.4
Employment	69.6	71.1	60.1	58.2	53.7	57.4	41.9	35.6	30.4	26.8	31.6	34.1	35.1
Academe	30.8	33.8	30.3	30.1	29.3	29.1	18.8	17.4	11.2	10.4	8.8	9.1	9.3
Elem/Secondary	.4	.4	.3	.0	.0	.0	.2	.5	.2	.5	.1	.1	.1
Bus/Industry	24.7	23.6	12.3	14.1	11.6	12.8	12.1	5.9	7.8	8.3	14.3	16.8	18.2
Government	8.0	6.2	6.8	4.6	4.0	9.0	7.7	10.7	10.0	6.6	7.2	7.4	7.1
Nonprofit	2.4	2.3	3.7	2.5	2.3	1.4	2.7	1.0	1.0	.6	.8	.6	.4
Othr & Unkn Empl#	3.2	4.9	6.9	6.8	6.6	5.1	.4	.1	.2	.3	.3	.1	.1
Plans Unknown	8.2	2.5	4.4	6.2	6.4	5.0	5.9	9.1	9.4	9.7	6.9	7.0	7.2

* Vertical percentage based on total doctorates in each field and year.

\+ From 1958 to 1968 only those planning employment were asked to indicate whether they had a firm commitment or were still seeking a position. The question pertaining to postdoctoral study simply asked if the doctorate recipient had secured such an appointment. Beginning in 1969 all doctorate recipients, regardless of the type of planned postgraduation activity, were asked the status of their plans. (Responses in this category from 1968 Ph.D.s resulted from individuals completing the 1969 questionnaire but receiving the doctorate the previous year.) This inconsistency in the data is mitigated somewhat by the generally lower percentage of doctorate recipients with postdoctoral study appointments in the 1960s.

\# Prior to 1969 the employment of doctorate recipients whose planned postgraduation activity was outside the U.S. was classified as foreign, regardless of the type of employer. From 1969 to the present, detail has been available on the planned type of employer for all doctorate recipients. Here the "foreign" responses are included in the "other and unknown employer" category. Inspection of the questionnaires of 1968 doctorate recipients--the first year in which respondents were asked to give the name and address of the prospective employer--provided the following distinction of employer type for the 240 Ph.D.s leaving the United States: academe, 0%; elementary/secondary, 3%; business and industry, 3%; government, 79%; nonprofit, 11%; and other and unknown, 3%.

TEXT TABLE D (continued)

Postgraduation Plans	Year of Doctorate												
	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982
Chemistry	965	1,078	1,138	1,351	1,594	1,803	2,238	2,019	1,797	1,624	1,544	1,538	1,678
Seeking Appointment	9.3*	8.7	7.7	9.5	7.3	8.9	18.1	22.4	22.0	21.2	20.7	19.2	16.3
Postdoctoral Study+				.0	.0	.4	6.0	10.2	11.8	11.2	10.4	9.6	7.9
Employment	9.3	8.7	7.7	9.4	7.2	8.4	12.0	12.3	10.2	10.0	10.3	9.6	8.4
Definite Plans	84.0	89.1	90.2	86.8	88.5	87.9	78.7	71.2	70.5	74.1	73.3	76.5	77.7
Postdoctoral Study	9.6	16.4	25.5	28.1	28.2	29.0	30.9	40.5	34.3	40.6	36.0	32.1	31.0
Employment	74.4	72.7	64.8	58.8	60.3	58.9	47.8	30.7	36.2	33.5	37.2	44.5	46.6
Academe	18.3	16.5	14.4	14.5	15.7	17.0	14.2	12.7	9.7	9.2	8.1	6.3	6.6
Elem/Secondary	.1	.2	.4	.1	.1	.2	.1	1.0	.4	.4	.3	.4	.1
Bus/Industry	49.5	46.3	36.4	32.1	32.1	33.4	27.6	10.5	20.8	19.6	25.5	33.6	37.2
Government	2.9	2.7	3.4	2.8	2.1	2.8	4.1	5.6	4.5	3.3	2.7	3.3	2.1
Nonprofit	1.2	1.5	1.9	1.3	.9	1.1	1.1	.6	.7	.8	.6	.7	.4
Othr & Unkn Empl#	2.3	5.6	8.3	8.1	9.5	4.4	.7	.2	.2	.1	.1	.2	.2
Plans Unknown	6.6	2.1	2.0	3.8	4.4	3.2	3.2	6.4	7.5	4.7	6.0	4.2	6.0
Mathematics	238	291	388	588	769	971	1,225	1,281	1,211	1,003	838	744	720
Seeking Appointment	15.1*	11.0	14.4	15.8	16.1	17.8	20.6	24.7	32.0	28.1	25.2	21.0	23.6
Postdoctoral Study+	.0	.0	.0	.0	.0	.1	2.0	3.4	4.3	4.4	3.2	4.2	4.4
Employment	15.1	11.0	14.4	15.8	16.1	17.7	18.5	21.4	27.7	23.7	22.0	16.8	19.2
Definite Plans	78.2	86.6	81.2	80.8	78.8	78.0	74.6	69.9	60.0	66.3	68.6	72.3	70.0
Postdoctoral Study	7.1	7.6	12.1	7.0	6.2	4.7	5.9	6.5	4.7	6.0	8.9	9.4	11.1
Employment	71.0	79.0	69.1	73.8	72.6	73.2	68.7	63.4	55.2	60.3	59.7	62.9	58.9
Academe	47.9	51.9	46.6	51.4	54.4	55.4	54.7	49.6	42.1	46.9	43.7	44.9	43.6
Elem/Secondary	1.3	.3	.5	.0	.1	.1	.0	.4	.5	.1	.4	.5	.0
Bus/Industry	11.3	11.0	10.3	8.2	7.0	8.5	8.2	6.6	7.5	6.8	10.3	12.2	8.5
Government	3.8	6.2	3.6	2.6	2.0	2.5	3.5	5.5	4.3	5.9	4.7	4.2	6.1
Nonprofit	2.5	.3	2.1	2.7	1.6	.7	1.9	.9	.7	.3	.7	.5	.4
Othr & Unkn Empl#	4.2	9.3	5.9	9.0	7.5	6.0	.4	.4	.1	.4	.0	.5	.3
Plans Unknown	6.7	2.4	4.4	3.4	5.1	4.2	4.8	5.4	8.0	5.6	6.2	6.7	6.4
Engineering	629	794	1,216	1,664	2,301	2,855	3,434	3,503	3,147	2,834	2,423	2,479	2,644
Seeking Appointment	15.4*	15.5	16.7	16.5	12.6	17.5	24.7	26.8	25.2	27.3	23.8	19.8	25.9
Postdoctoral Study+	.0	.0	.0	.0	.0	.2	2.8	5.2	5.1	5.3	5.8	4.4	5.3
Employment	15.4	15.5	16.7	16.4	12.6	17.2	21.9	21.7	20.1	22.1	18.0	15.4	20.6
Definite Plans	80.4	82.9	81.6	80.2	82.1	79.8	72.5	67.7	65.5	67.0	69.3	73.7	66.6
Postdoctoral Study	2.2	3.5	4.1	5.7	5.4	4.5	5.2	8.6	6.7	10.2	10.5	9.1	7.6
Employment	78.2	79.3	77.5	74.5	76.7	75.3	67.3	59.2	58.8	56.8	58.8	64.6	59.0
Academe	31.0	31.9	29.1	28.2	26.3	24.0	20.2	17.8	14.9	17.6	17.2	19.2	17.0
Elem/Secondary	.3	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Bus/Industry	35.3	35.4	33.2	29.3	32.5	33.6	33.8	26.0	30.5	27.0	30.3	33.2	32.3
Government	3.3	3.3	2.2	3.1	3.9	7.3	9.5	13.3	10.9	10.4	9.8	10.8	7.8
Nonprofit	2.2	1.9	2.9	3.5	3.2	2.9	3.0	1.5	2.2	1.4	1.0	1.3	1.4
Othr & Unkn Empl#	6.0	6.8	10.0	10.4	10.9	7.5	.8	.5	.3	.3	.5	.2	.5
Plans Unknown	4.1	1.6	1.7	3.5	5.3	2.7	2.7	5.4	9.3	5.7	6.9	6.5	7.5

TEXT TABLE D (continued)

Postgraduation Plans	Year of Doctorate												
	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982
Biochemistry	236	259	286	369	458	580	583	585	599	617	607	673	650
Seeking Appointment	11.4*	14.3	12.2	9.8	9.6	13.4	13.4	15.4	20.5	17.2	17.5	18.3	19.7
Postdoctoral Study+	.0	.0	.0	.0	.0	1.9	7.2	8.7	13.4	11.2	13.5	13.4	14.9
Employment	11.4	14.3	12.2	9.5	9.2	11.6	6.2	6.7	7.2	6.0	4.0	4.9	4.8
Definite Plans	78.8	83.8	86.7	85.9	86.0	83.4	83.9	75.9	73.1	76.5	78.3	78.0	76.2
Postdoctoral Study	15.7	28.6	47.6	49.6	52.0	54.7	63.0	61.0	58.1	67.3	67.5	67.2	62.9
Employment	63.1	55.2	39.2	36.3	34.1	28.8	20.9	14.9	15.0	9.2	10.7	10.8	13.2
Academe	26.7	28.2	15.4	18.4	13.8	12.8	8.9	6.8	8.2	3.4	4.4	4.0	4.5
Elem/Secondary	.8	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
Bus/Industry	14.0	9.3	9.8	4.1	7.2	4.8	5.3	2.4	3.2	2.9	3.8	4.9	7.1
Government	8.9	6.9	5.9	5.4	4.4	2.9	4.5	3.2	2.7	1.8	1.5	1.2	1.1
Nonprofit	6.8	5.8	2.4	1.9	2.0	3.8	1.7	2.1	1.0	1.1	1.0	.7	.5
Othr & Unkn Empl#	5.9	5.0	5.6	6.5	6.8	4.5	.5	.2	.0	.0	.0	.0	.2
Plans Unknown	9.7	1.9	1.0	4.6	4.8	3.1	2.7	8.7	6.3	6.3	4.3	3.7	4.2
Other Biosciences	904	923	1,014	1,212	1,533	2,046	2,588	2,738	2,602	2,638	2,590	2,743	2,852
Seeking Appointment	16.0*	16.9	15.9	13.7	13.1	15.0	19.7	23.1	23.6	22.4	23.0	23.4	22.9
Postdoctoral Study+	.0	.0	.0	.0	.0	1.2	7.5	8.3	9.9	10.0	11.6	12.3	12.4
Employment	16.0	16.9	15.9	13.5	12.4	13.8	12.2	14.8	13.6	12.4	11.4	11.0	10.6
Definite Plans	76.2	81.7	81.7	82.8	83.0	81.3	76.4	70.3	67.3	70.6	70.2	71.3	70.8
Postdoctoral Study	9.8	17.1	24.6	24.5	26.2	29.3	34.0	34.0	32.2	40.7	45.4	47.5	49.2
Employment	66.4	64.6	57.1	58.3	56.8	52.0	42.4	36.3	35.1	29.9	24.8	23.8	21.6
Academe	40.6	38.9	32.2	35.3	35.4	32.5	30.3	24.8	23.0	19.3	16.6	13.5	11.9
Elem/Secondary	.6	.4	.5	.2	.0	.0	.2	.4	.4	.2	.1	.1	.2
Bus/Industry	5.1	5.0	4.0	4.2	3.3	3.0	3.5	2.6	3.5	3.3	3.3	4.0	4.3
Government	9.4	7.5	7.7	6.4	6.1	5.7	6.1	6.4	6.4	5.0	3.9	4.7	3.7
Nonprofit	3.4	2.2	2.4	1.2	2.4	1.8	1.7	1.8	1.5	1.7	.9	1.3	1.3
Othr & Unkn Empl#	7.3	10.6	10.3	11.0	9.5	9.0	.6	.3	.3	.5	.1	.1	.1
Plans Unknown	7.7	1.4	2.5	3.7	4.6	3.7	4.0	6.5	9.1	6.9	6.8	5.3	6.3
Medical Sciences	143	133	205	263	318	397	488	613	631	676	686	849	933
Seeking Appointment	12.6*	15.0	13.2	12.9	16.0	14.6	17.8	19.1	18.4	20.4	20.6	17.2	22.7
Postdoctoral Study+	.0	.0	.0	.0	.0	1.0	4.1	5.9	6.0	8.3	7.4	7.3	8.0
Employment	12.6	15.0	13.2	12.5	15.7	13.6	13.7	13.2	12.4	12.1	13.1	9.9	14.7
Definite Plans	79.0	82.0	84.4	83.3	81.1	82.6	75.2	72.3	68.0	73.1	70.3	78.1	71.8
Postdoctoral Study	7.0	18.8	14.6	17.5	21.4	22.9	24.0	27.9	22.5	30.9	31.0	36.2	30.1
Employment	72.0	63.2	69.8	65.8	59.7	59.7	51.2	44.4	45.5	42.2	39.2	41.9	41.7
Academe	39.9	30.1	34.6	30.4	28.0	30.7	28.7	29.0	25.5	23.7	20.4	24.0	20.9
Elem/Secondary	.7	.0	.0	.0	.3	.0	.0	.2	.0	.0	.0	.0	.1
Bus/Industry	21.0	18.8	16.1	12.5	11.9	11.8	7.2	4.6	8.6	7.5	9.0	7.5	10.5
Government	2.8	4.5	4.9	6.8	7.9	5.5	11.3	8.0	9.0	8.0	7.6	7.1	6.5
Nonprofit	2.1	2.3	2.4	3.0	1.6	2.3	3.3	2.4	2.2	2.5	2.0	3.3	3.6
Othr & Unkn Empl#	5.6	7.5	11.7	12.9	10.1	9.3	.8	.2	.2	.4	.1	.0	.0
Plans Unknown	8.4	3.0	2.4	4.2	3.1	2.8	7.0	8.6	13.6	6.5	9.2	4.7	5.5

TEXT TABLE D (continued)

Postgraduation Plans	Year of Doctorate												
	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982
Psychology	743	772	856	1,013	1,139	1,464	1,890	2,280	2,598	2,883	3,055	3,098	3,154
Seeking Appointment	18.6*	17.0	17.2	14.9	13.7	16.1	20.6	21.8	24.3	28.2	29.1	26.3	28.5
Postdoctoral Study+	.0	.0	.0	.0	.0	.4	1.9	2.4	3.4	4.8	4.4	4.4	5.0
Employment	18.6	17.0	17.2	14.7	13.5	15.7	18.7	19.3	20.9	23.5	24.7	21.9	23.5
Definite Plans	72.5	81.7	80.6	81.7	81.6	80.7	75.5	71.1	67.4	67.1	62.0	67.1	64.2
Postdoctoral Study	3.9	8.4	9.9	10.1	12.8	11.4	11.0	9.8	9.4	10.8	12.1	12.3	10.7
Employment	68.6	73.3	70.7	71.7	68.7	69.3	64.6	61.4	58.0	56.3	49.9	54.7	53.5
Academe	30.8	33.0	32.9	34.7	39.4	40.6	39.9	34.7	29.6	25.9	20.1	20.0	17.7
Elem/Secondary	4.6	3.4	3.3	2.5	1.8	2.7	1.6	2.1	2.3	3.1	2.4	3.3	3.8
Bus/Industry	6.6	7.9	4.3	4.7	4.1	4.3	4.2	2.9	4.3	4.7	6.0	8.4	9.9
Government	15.1	17.6	16.9	15.6	10.9	11.2	11.8	15.4	12.6	13.3	10.2	11.2	10.2
Nonprofit	6.7	5.8	6.8	7.2	6.6	5.5	5.8	5.8	8.6	9.0	10.7	11.2	11.5
Othr & Unkn Empl#	4.8	5.6	6.4	6.9	6.0	5.1	1.3	.4	.5	.3	.6	.7	.4
Plans Unknown	8.9	1.3	2.2	3.6	4.9	3.1	3.9	7.1	8.3	4.7	8.9	6.6	7.3
Anthropology	53	69	81	83	97	138	217	260	379	428	399	370	333
Seeking Appointment	15.1*	18.8	12.3	12.0	14.4	12.3	12.4	11.5	20.3	29.4	34.8	39.5	40.5
Postdoctoral Study+	.0	.0	.0	.0	.0	.7	2.3	2.7	2.6	4.7	9.5	5.7	8.1
Employment	15.1	18.8	12.3	12.0	13.4	11.6	10.1	8.8	17.7	24.8	25.3	33.8	32.4
Definite Plans	73.6	73.9	81.5	79.5	83.5	83.3	82.0	80.4	72.3	63.1	54.6	55.4	52.6
Postdoctoral Study	1.9	8.7	9.9	4.8	5.2	3.6	8.8	5.8	5.5	6.5	8.3	10.3	9.3
Employment	71.7	65.2	71.6	74.7	78.4	79.7	73.3	74.6	66.8	56.5	46.4	45.1	43.2
Academe	52.8	43.5	55.6	54.2	64.9	72.5	69.6	69.6	59.4	50.0	36.1	30.8	28.2
Elem/Secondary	1.9	.0	1.2	.0	.0	.0	.0	.0	.0	.2	.0	.0	.6
Bus/Industry	1.9	1.4	2.5	.0	.0	.0	.5	.4	1.6	1.2	1.5	3.0	3.9
Government	3.8	5.8	2.5	4.8	2.1	1.4	2.3	1.9	2.9	2.8	3.8	6.2	6.3
Nonprofit	3.8	5.8	1.2	1.2	2.1	.0	.9	1.9	2.4	1.9	4.8	4.9	4.2
Othr & Unkn Empl#	7.5	8.7	8.6	14.5	9.3	5.8	.0	.8	.5	.5	.3	.3	.0
Plans Unknown	11.3	7.2	6.2	8.4	3.1	4.3	5.5	8.1	7.4	7.5	10.5	5.1	6.9
Economics	332	352	418	527	627	747	853	895	853	885	801	766	759
Seeking Appointment	14.8*	11.1	10.0	9.1	7.3	8.7	10.9	12.4	15.4	17.7	19.0	15.8	15.7
Postdoctoral Study+	.0	.0	.0	.0	.0	.0	.9	1.9	1.3	1.1	1.4	1.3	2.0
Employment	14.8	11.1	10.0	9.1	7.3	8.7	10.0	10.5	14.1	16.6	17.6	14.5	13.7
Definite Plans	74.1	86.9	85.6	85.0	86.4	86.7	84.2	82.5	76.9	75.6	72.5	80.3	77.5
Postdoctoral Study	.9	.3	1.9	1.3	2.4	1.7	2.1	2.9	2.5	2.4	2.9	2.7	2.1
Employment	73.2	86.6	83.7	83.7	84.1	85.0	82.1	79.6	74.4	73.2	69.7	77.5	75.4
Academe	53.9	56.5	56.0	52.9	51.0	56.8	63.1	58.0	51.2	49.4	46.6	47.7	49.5
Elem/Secondary	.0	.3	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
Bus/Industry	6.9	4.8	4.8	6.1	4.5	4.6	5.0	5.3	6.1	5.5	6.9	8.7	9.6
Government	4.8	6.8	6.9	6.8	8.1	6.2	8.6	9.9	11.5	14.0	11.4	14.2	11.5
Nonprofit	1.8	4.0	3.8	4.0	3.3	2.7	4.0	3.4	3.2	2.4	3.1	4.2	1.7
Othr & Unkn Empl#	5.7	14.2	11.7	13.9	17.1	14.9	1.4	3.0	2.5	1.9	1.7	2.7	2.9
Plans Unknown	11.1	2.0	4.3	5.9	6.2	4.6	4.9	5.1	7.7	6.7	8.5	3.9	6.9

TEXT TABLE D (continued)

Postgraduation Plans	Year of Doctorate												
	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982
History	317	364	366	530	645	741	1,091	1,186	1,186	1,095	852	745	692
Seeking Appointment	15.8*	14.8	14.8	9.6	6.8	9.3	13.6	24.9	32.5	34.4	33.6	31.9	34.1
Postdoctoral Study+	.0	.0	.0	.0	.0	.0	.6	1.6	3.5	3.3	2.2	3.6	4.5
Employment	15.8	14.8	14.8	9.6	6.7	9.3	12.9	23.3	29.1	31.1	31.3	28.3	29.6
Definite Plans	78.5	81.3	78.7	84.0	86.7	87.9	80.8	66.0	57.3	53.9	56.6	61.2	56.6
Postdoctoral Study	.0	1.1	1.6	2.1	1.7	1.3	2.1	1.7	2.0	1.9	3.4	4.3	4.0
Employment	78.5	80.2	77.0	81.9	85.0	86.5	78.7	64.3	55.3	52.0	53.2	56.9	52.6
Academe	63.7	65.4	62.6	72.1	72.6	75.2	73.1	57.6	46.0	40.5	40.3	37.6	36.1
Elem/Secondary	4.4	2.7	3.8	1.7	1.9	1.9	1.1	2.0	2.0	2.5	2.0	3.6	3.5
Bus/Industry	.3	.0	1.4	.2	.6	.4	.5	.9	1.9	1.8	2.8	4.2	4.5
Government	2.5	4.9	1.6	1.7	1.4	2.8	2.2	2.9	3.7	4.4	4.3	7.5	4.3
Nonprofit	2.8	2.2	1.4	1.5	1.6	.5	.8	.8	1.4	2.7	3.3	4.0	3.9
Othr & Unkn Empl#	4.7	4.9	6.3	4.7	7.0	5.7	1.1	.1	.3	.0	.5	.0	.3
Plans Unknown	5.7	3.8	6.6	6.4	6.7	2.8	5.6	9.1	10.1	11.7	9.9	6.8	9.2
English & Amer L & L	333	386	463	528	671	930	1,098	1,370	1,369	1,214	1,025	952	771
Seeking Appointment	9.9*	10.4	9.7	11.0	7.3	9.4	13.8	20.9	31.5	37.3	35.9	34.2	32.4
Postdoctoral Study+	.0	.0	.0	.0	.0	.0	.6	.8	1.4	1.8	2.3	2.4	1.0
Employment	9.9	10.4	9.7	11.0	7.3	9.4	13.2	20.1	30.1	35.5	33.6	31.8	31.4
Definite Plans	83.5	88.3	87.0	83.1	87.3	87.8	79.7	71.5	57.2	53.3	53.9	58.4	61.0
Postdoctoral Study	.9	1.3	1.1	.4	.6	1.0	1.0	1.6	1.5	1.6	1.8	2.2	.9
Employment	82.6	87.0	86.0	82.8	86.7	86.9	78.7	69.9	55.7	51.6	52.1	56.2	60.1
Academe	75.4	81.3	78.0	76.3	80.5	80.5	76.3	67.1	50.8	47.4	43.9	46.3	49.9
Elem/Secondary	.9	.8	2.2	.9	1.0	.6	.9	1.0	1.8	1.9	2.7	2.7	3.1
Bus/Industry	1.8	1.0	1.7	.2	.4	.4	.3	.9	1.8	1.4	3.0	3.7	3.6
Government	.6	.5	.2	.0	.1	.1	.2	.2	.7	.6	1.2	1.4	1.3
Nonprofit	1.2	.0	.9	.0	.1	.4	.1	.4	.4	.2	.9	1.5	1.8
Othr & Unkn Empl#	2.7	3.4	3.0	5.3	4.5	4.7	.9	.4	.0	.2	.4	.6	.3
Plans Unknown	6.6	1.3	3.2	5.9	5.4	2.8	6.5	7.5	11.3	9.4	10.2	7.4	6.6
Foreign Lang & Lit	189	213	252	345	451	629	733	919	975	914	704	589	551
Seeking Appointment	14.8*	9.9	12.3	9.3	8.9	12.6	18.8	23.1	32.1	39.1	38.1	41.6	32.5
Postdoctoral Study+	.0	.0	.0	.0	.0	.0	1.2	1.0	2.2	3.6	4.0	3.2	2.4
Employment	14.8	9.9	12.3	9.0	8.6	12.6	17.6	22.1	29.9	35.4	34.1	38.4	30.1
Definite Plans	76.7	83.6	81.7	82.0	84.9	83.1	75.3	68.0	57.8	50.7	50.7	49.2	59.0
Postdoctoral Study	2.6	1.9	2.4	3.5	.4	1.0	2.6	2.8	2.1	1.3	2.7	1.7	2.9
Employment	74.1	81.7	79.4	78.6	84.5	82.2	72.7	65.2	55.8	49.3	48.0	47.5	56.1
Academe	65.6	70.9	68.3	71.6	76.3	75.4	69.8	61.9	49.8	43.1	38.9	38.2	47.2
Elem/Secondary	2.6	2.3	2.8	1.2	1.1	1.1	.5	1.6	4.1	2.5	3.0	4.6	3.3
Bus/Industry	.5	.9		.3	.2	.2	.3	.3	.5	.7	2.3	3.2	2.5
Government	.5	.9	.4	.6	.0	.3	.5	.7	1.0	1.0	1.7	.8	1.8
Nonprofit	1.1	1.4	2.0	.9	.7	.8	.5	.4	.2	1.4	1.6	.5	.9
Othr & Unkn Empl#	3.7	5.2	6.0	4.1	6.2	4.5	1.0	.2	.1	.7	.6	.2	.4
Plans Unknown	8.5	6.6	6.0	9.0	6.4	4.3	5.9	8.9	10.1	10.3	11.2	9.2	8.5

TEXT TABLE D (continued)

Postgraduation Plans	Year of Doctorate												
	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980	1982
Education	1,491	1,549	1,893	2,351	3,040	4,029	5,857	7,085	7,241	7,725	7,194	7,585	7,226
Seeking Appointment	15.2*	14.4	14.6	13.1	13.1	14.3	22.6	22.4	23.8	24.5	26.3	24.1	24.6
Postdoctoral Study+	.0	.0	.0	.0	.0	.1	.4	1.0	1.2	1.1	1.5	1.2	1.5
Employment	15.2	14.4	14.6	13.1	13.1	14.2	22.1	21.5	22.6	23.5	24.9	22.8	23.1
Definite Plans	77.4	83.8	83.8	84.0	84.0	82.5	74.2	72.6	68.7	69.9	66.9	70.4	69.6
Postdoctoral Study	.6	.5	1.0	.9	.7	1.1	1.4	1.1	1.5	1.4	1.5	1.6	1.7
Employment	76.8	83.3	82.8	83.0	83.3	81.4	72.8	71.5	67.2	68.4	65.4	68.7	67.8
Academe	42.9	49.5	47.1	47.9	51.8	52.7	50.4	45.0	39.0	37.5	34.2	34.4	31.5
Elem/Secondary	21.4	21.7	22.9	21.3	19.8	17.6	11.8	15.9	15.4	17.4	16.5	18.4	18.6
Bus/Industry	.8	1.1	.9	.9	1.0	.8	1.1	1.0	1.4	1.7	2.1	3.3	4.8
Government	4.9	4.7	4.1	4.4	3.6	3.1	5.1	6.1	7.8	7.8	8.3	8.0	7.7
Nonprofit	1.9	2.3	2.5	2.8	2.9	2.9	2.4	2.9	2.9	3.3	3.6	3.8	4.4
Othr & Unkn Empl#	4.9	4.1	5.3	5.7	4.1	4.3	2.0	.6	.7	.6	.6	.8	.9
Plans Unknown	7.4	1.8	1.6	2.9	3.0	3.3	3.3	5.0	7.5	5.6	6.8	5.6	5.8

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

Postgraduation Plans Compared with Employment Status One Year Later

In the previous section, data on the postgraduation plans of doctorate recipients were used to describe the employment and study opportunities available to new Ph.D.s. However, the responses to the Survey of Earned Doctorates, upon which these data are based, are no more than predictions of future activities made by individuals nearing completion of work on their doctoral degrees. The NRC's Survey of Doctorate Recipients (SDR) provides an opportunity to measure the validity of plans reported to the Survey of Earned Doctorates as predictors of employment status approximately one year after receipt of the Ph.D.

The SDR is a biennial survey of a sample of doctoral scientists, engineers, and humanists taken from the population of doctorate recipients defined by the results of the Survey of Earned Doctorates. The latest SDR, conducted in 1981, was based on a stratified random sample of 65,391 (or 13.5 percent) of the individuals who earned doctoral degrees between January 1938 and January 1981. Degrees in education and professional fields are not included in the SDR. Responses from individuals in the sample (designated by N's in Text Table E) are weighted to yield population estimates (WN in Text Table E). Because the SDR is a sample survey, the estimates are subject to possible error due to sampling variability and nonsampling errors such as nonresponse bias. A full discussion of the survey procedures and possible sampling errors can be found in Appendixes C through F (pp. 77-99) of the report Science, Engineering, and Humanities Doctorates in the United States: 1981 Profile.[3]

Displayed in Text Table E is a comparison of the postgraduation plans reported by 1980 doctorate recipients with the responses of the same persons to questions about employment in the 1981 SDR. The table is based on the responses of 1,870 doctorate recipients out of a sample of 2,723 cases, corresponding to a response rate of 68.8 percent. The percentages in Table E are calculated on the WN (weighted number), which is a statistical representation of the total population derived by multiplying each sample case by the number of individuals that the case represents in the doctoral population.

Table E should be read by first reviewing the diagonal elements from the upper left-hand corner to the lower right in each section. The "Total All Fields" panel of Table E, for example, shows that 99 percent of the 1980 doctorate recipients with definite employment plans reported employment in 1981, with equally strong agreement between anticipated type of employer and actual employment sector for both those in academe and those in business and industry. Doctorate recipients with plans for employment in other areas were somewhat less likely to be employed in the same sector as they had planned, but nearly all (97-99 percent) did find employment by 1981.

The percentage of 1980 doctorate recipients who had definite commitments for postdoctoral study and who were still engaged in this activity in 1981 was 68 percent, somewhat lower than that for new Ph.D.s planning employment. This lower percentage may, however, be a function of the length of time between completion of the two questionnaires. The 1980 Survey of Earned Doctorates questionnaire could have been filled out as early as July 1979, while the 1981 SDR requested an individual's employment status as of February 1981. Thus, more than one year could have elapsed between completion of the two questionnaires, more than ample time for an individual to have entered and completed a full year of postdoctoral study before the 1981 SDR was mailed. Slightly more than one-half of the 28 percent with definite postdoctoral study commitments employed in 1981 held positions at academic institutions.

Doctorate recipients still seeking study or employment at the time they earned the Ph.D. were less likely to have realized their plans than those with definite commitments. Nevertheless, a substantial percentage (87 percent) of Ph.D.s seeking employment had found jobs by 1981. Those still seeking study or employment, along with doctorate recipients whose plans at time of Ph.D. were not known, were the groups least likely to be employed in 1981.

The data for physical sciences closely parallel the figures for the total science, engineering, and humanities Ph.D. population. An overwhelming proportion of individuals with definite employment plans

[3] National Research Council, Science, Engineering, and Humanities Doctorates in the United States: 1981 Profile, National Academy Press, Washington, D.C., 1982.

TEXT TABLE E Comparison of Postgraduation Employment and Study Plans of 1980 Doctorate Recipients with Employment Status Reported in 1981

Postgraduation Plans - 1980	Total Ph.D.s		Career Status - 1981						
			Postdoc Study	Employed					Not Employed
				Total	Academe	Bus/Ind	Govt	Other	
	N	WN							
Total All Fields	1,870	20,656	19.1*	77.7	39.6	24.0	7.5	6.5	3.2
Definite Study	484	4,515	68.1	27.9	14.3	6.6	3.2	3.8	4.1
Definite Employment	905	11,065	1.0	98.5	50.3	29.3	10.6	8.3	.5
Academe	518	5,541	1.5	98.0	94.0	2.3	.1	1.6	.5
Business and Industry	226	3,132	.1	99.6	2.5	95.4	1.6	.1	.4
Government	106	1,573	.0	98.9	12.0	2.9	68.1	15.9	1.1
Other & Unkn Employment	55	819	3.4	96.6	11.1	9.6	5.1	70.7	.0
Seeking Study	95	971	50.9	43.1	24.1	11.8	2.1	5.1	5.9
Seeking Employment	290	2,989	4.6	86.9	44.5	31.4	6.2	4.8	8.5
Plans Unknown	96	1,084	11.5	80.6	38.7	33.5	2.2	6.2	9.7
Physical Sciences	352	3,333	36.3	61.1	15.0	37.0	6.8	2.3	2.6
Definite Study	132	1,310	68.9	28.9	12.6	7.9	3.7	4.7	2.3
Definite Employment	141	1,260	1.7	98.2	21.1	64.0	12.9	.2	.2
Academe	33	279	6.8	93.2	87.5	5.7	.0	.0	.0
Business and Industry	87	801	.2	99.5	.6	96.9	1.7	.2	.2
Government	19	175	.0	100.0	8.0	8.0	84.0	.0	.0
Other & Unkn Employment	2	5	.0	100.0	60.0	.0	40.0	.0	.0
Seeking Study	30	331	61.0	38.1	7.6	29.9	.0	.6	.9
Seeking Employment	30	219	22.4	63.0	7.8	44.3	6.4	4.6	14.6
Plans Unknown	19	213	17.4	74.2	13.1	59.2	.5	1.4	8.5
Engineering	95	2,024	.2	99.8	27.3	63.4	6.9	2.2	.0
Definite Study	5	88	4.5	95.5	95.5	.0	.0	.0	.0
Definite Employment	73	1,497	.0	100.0	25.9	62.5	9.2	2.5	.0
Academe	23	373	.0	100.0	100.0	.0	.0	.0	.0
Business and Industry	40	937	.0	100.0	.2	96.5	3.3	.0	.0
Government	7	146	.0	100.0	6.2	21.2	72.6	.0	.0
Other & Unkn Employment	3	41	.0	100.0	7.3	.0	.0	92.7	.0
Seeking Study	1	41	.0	100.0	100.0	.0	.0	.0	.0
Seeking Employment	13	292	.0	100.0	14.0	82.9	.7	2.4	.0
Plans Unknown	3	106	.0	100.0	.0	100.0	.0	.0	.0
Biosciences	363	3,265	55.8	37.3	20.0	7.7	6.8	2.8	6.9
Definite Study	233	2,047	77.0	17.0	9.6	1.8	2.1	3.5	6.0
Definite Employment	61	604	.0	94.4	50.8	19.9	23.3	.3	5.6
Academe	32	314	.0	93.3	93.3	.0	.0	.0	6.7
Business and Industry	16	134	.0	100.0	10.4	89.6	.0	.0	.0
Government	13	156	.0	91.7	.0	.0	90.4	1.3	8.3
Other & Unkn Employment	0	0	.0	.0	.0	.0	.0	.0	.0
Seeking Study	31	236	60.2	22.0	6.4	3.8	8.5	3.4	17.8
Seeking Employment	26	243	21.8	67.1	37.9	22.6	6.6	.0	11.1
Plans Unknown	12	135	37.0	62.9	31.8	22.9	.0	8.1	.0
Social Sciences	368	5,959	7.2	91.2	42.7	23.6	10.2	14.5	1.6
Definite Study	36	538	41.6	58.4	19.0	27.5	5.9	5.9	.0
Definite Employment	223	3,918	1.5	98.4	47.6	23.0	11.4	16.4	.1
Academe	123	1,838	1.6	98.4	91.4	4.0	.3	2.7	.0
Business and Industry	32	815	.0	100.0	6.9	93.1	.0	.0	.0
Government	41	767	.0	99.3	16.2	.0	53.5	29.7	.7
Other & Unkn Employment	27	498	5.6	94.4	1.0	13.7	6.4	73.3	.0
Seeking Study	13	183	47.0	48.1	27.3	.0	.0	20.1	4.9
Seeking Employment	75	1,073	2.2	91.1	39.2	30.3	11.4	10.2	6.7
Plans Unknown	20	231	17.3	79.7	46.8	11.7	2.6	18.6	3.0
Humanities	356	3,478	1.4	93.4	75.9	8.3	5.1	4.1	5.2
Definite Study	11	56	41.1	58.9	58.9	.0	.0	.0	.0
Definite Employment	218	2,237	.0	99.6	82.2	5.0	7.1	5.4	.4
Academe	184	1,800	.0	99.5	98.2	.4	.0	.9	.5
Business and Industry	11	104	.0	100.0	.0	100.0	.0	.0	.0
Government	10	165	.0	100.0	9.1	.0	90.9	.0	.0
Other & Unkn Employment	13	168	.0	100.0	33.3	.0	4.8	61.9	.0
Seeking Study	7	78	17.9	78.2	69.2	9.0	.0	.0	3.8
Seeking Employment	93	841	1.2	86.4	64.3	18.1	2.5	1.5	12.4
Plans Unknown	27	266	.0	75.2	65.0	6.4	.0	3.8	24.8

*Horizontal percentage based on weighted number (WN).

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File and Survey of Doctorate Recipients.

had secured jobs in the same sectors as reported in the Survey of Earned Doctorates, including those planning government employment. For those with definite study plans, 69 percent were on postdoctoral appointments in 1981, with an additional 13 percent employed in academe. The majority of doctorate recipients who were seeking employment or study did eventually secure such positions, although of all fields, physical science Ph.D.s still seeking appointments were the least likely to be employed in 1981 and the group least likely to be employed in academe.

Even though the number of cases in the engineering section of Table E is small, their employment patterns differ enough from the norm to warrant separate attention. The few doctorate recipients with firm study commitments appear to have moved directly into academic employment following the postdoctoral. All of those with definite plans for employment in academe and nearly all with plans for business and industry employment have found jobs in those sectors. Although many of the employment categories for engineers have N's too small to represent significant findings, it is interesting to note that of the Table E fields engineering had the lowest percentage of 1980 doctorate recipients not employed in 1981.

Of the Table E fields the biosciences has the highest percentage (77 percent) of doctorate recipients who reported commitments for study still holding postdoctoral appointments in 1981. As in other fields, a very high proportion of Ph.D.s with definite employment plans were found to be employed in their planned sector in the 1981 survey. There, too, over 60 percent of the individuals still seeking study or employment at time of award of the doctorate realized their postgraduation plans, but the same groups had considerably greater percentages not employed than those with firm commitments. In fact, the biosciences field has the largest percentage not employed in 1981 of any Table E field.

The data for social science doctorates reflect a slightly different pattern than for other science fields, with the smallest percentage of individuals with definite study plans still on postdoctorals in 1981 and a considerably higher percentage of the same group with employment in business and industry. This higher percentage may stem from the increasing proportions of psychologists entering private practice. As in other discipline areas, doctorate recipients with definite employment plans were highly likely to be employed in 1981 and, with the exception of government, in their planned employment sector. Those still seeking appointments at the time of receiving their doctorate achieved their study or employment plans in about the same proportions as those with definite plans.

As in engineering, postdoctoral study is not a typical career step for humanities Ph.D.s, but about two-fifths of those who reported definite study plans in 1980 held postdoctoral appointments in 1981; the remainder were employed at academic institutions. Over 98 percent of the doctorates with definite employment plans in academe were so engaged in 1981. Similarly strong relationships exist for employment in business and industry. Nearly 65 percent of those individuals still seeking, or with plans not known at time of doctorate, reported having secured academic employment in the 1981 survey. However, about one-quarter of humanities Ph.D.s whose plans were unknown in the 1980 survey were not employed in 1981, a considerably higher proportion than in the other Table E fields.

Postgraduation Plans--A Summary

That the employment characteristics of new doctorate recipients have undergone substantial change over the past 25 years is well established. The preceding sections of this Summary Report have presented statistics that help trace these changes and that provide a perspective on the doctorate recipients' perceptions of the employment opportunities available as they enter the labor force after completion of the doctoral degree. Two interrelated trends were found, to some degree, in nearly every field of study examined: first, the general rise in academic employment opportunities through the 1960s and subsequent decline from the mid-1970s to the present time; and second, the almost dramatic shift of science doctorate recipients from securing academic positions immediately to first taking postdoctoral study appointments. The inclusion of data from the early years of the survey has enabled the tracing of trends in employment market for new Ph.D.s from before the post-Sputnik surge in academic hiring.

Almost as important as these overall trends were the considerable differences seen in postgraduation opportunities across discipline areas. In such fields as chemistry, physics, and to some extent economics, doctorate recipients who have traditionally secured employment outside of academe seem to have been able to weather the downturn in academic hiring after a brief period of increased "seeking." On the other hand, Ph.D.s in such fields as anthropology and humanities, which have been almost wholly dependent on the availability of academic appointments for employment, have not yet been able to broaden employment to other sectors to any great degree. As a consequence, these are the fields most adversely affected by the boom and bust cycles of academic hiring.

A second section provided a brief comparison of the "plans" data with employment status in the year following the doctorate. Within the broad fields and employment sectors presented, an exceptionally strong relationship was found between plans and actuality, particularly for those with definite employment commitments at time of doctorate. Across all fields virtually all Ph.D.s who indicated definite employment plans were found to be actively employed the year after receipt of the doctorate. Nearly 87 percent of those still seeking employment upon completion of the doctorate had found jobs and an additional 5 percent were engaged in postdoctoral study. Two-thirds of those with plans for postdoctoral study were so engaged a year after graduation, with the remainder employed in academe or business and industry.

EXPLANATION OF THE FIVE BASIC TABLES

Table 1 Number of Doctorate Recipients by Sex and Subfield, 1982

Table 1A Number of Doctorate Recipients by Citizenship, Racial/Ethnic Group, and Subfield, 1982

Table 2 Statistical Profile of Doctorate Recipients by Sex and by Field of Doctorate, 1982 (three tables)

Table 3 Sources of Support in Graduate School of 1982 Doctorate Recipients by Sex and Summary Field

Table 4 State of Doctoral Institution of 1982 Doctorate Recipients by Sex and Summary Field

Table 5 Statistical Profile of Doctorate Recipients by Racial/Ethnic Group and U.S. Citizenship Status, 1982

Table titles and headings are generally self-explanatory, but a few terms need special definition or explanation. The survey questionnaire is reproduced on pages 44-45.

Tables 1 and 1A

Turning to the standard tables presented from year to year in these reports, Tables 1 and 1A display 1982 data by subfield of doctorate, corresponding to the fields specified in the Specialties List on page 46. The "general" field categories--e.g., "chemistry, general"--contain individuals who either received the doctorate in the general subject area or who did not indicate a particular specialty field. The "other" field categories--e.g., "chemistry, other"--include those individuals whose specified doctoral discipline was not listed in the Specialties List.

Table 2

There are three two-page tables: one contains data about all doctorate recipients in 1982 and the other two present data by sex. These tables provide data by field and also by broader summary field. Refer to the inside of the back cover of this report for the codes included in each broad field and to the Specialties List on page 46 for the codes and names of each subfield. Definitions are as follows:

Median Age at Doctorate--One-half received the doctorate at or before this age.

Percentage with Master's--This indicates the percentage of doctorate recipients in a field who received a master's degree in any field before earning the doctorate.

Median Time Lapse--Total Time refers to total calendar time elapsed between the year of baccalaureate and the year of doctorate; Registered Time refers to the total time registered in a university between baccalaureate and doctorate.

Each year's doctorate recipients provide information on postgraduation employment or study plans in response to items 18 and 19 on the survey form. Since the questionnaire is filled out at about the time the doctorate is received, these planned activities can be subject to change. However, comparisons with data from the longitudinal Survey of Doctorate Recipients have shown these data to be a reasonable predictor of actual employment status in the year following the doctorate.[4] Postgraduation plans of the doctorate recipients are grouped as follows:

Postdoctoral Study Plans (fellowship, research associateship, traineeship, other), Planned employment (educational institution, industry, etc.), or Postdoctoral Status Unknown. The sum of these lines of percentages totals 100 percent for each column, with allowance for rounding. For example, 12.9 percent of all engineers had postdoctoral study plans, 79.6 percent planned employment, and 7.5 percent did not report their postgraduation plans--these total 100.0 percent. The study and employment rows are further subdivided, showing that 3.1 percent of all the engineers plan to pursue postdoctoral fellowships, 7.9 percent plan research associateships, 1.5 percent plan traineeships, and 0.5 percent plan some other form of postdoctoral study. The employment row is similarly subdivided. The

[4] See discussion on pp. 22-24 (analysis section on SDR versus DRF data) and National Research Council, Century of Doctorates: Data Analyses of Growth and Change, National Academy of Sciences, Washington, D.C., 1978, pp. 92-93.

percentages listed by type of employer (educational institution, industry, etc.) total to the 79.6 percent planning on employment.

The four lines of data beginning with Definite Postdoctoral Study, first included in the 1974 report, distinguish between individuals who have definite postgraduation plans (item 17: Am returning to, or continuing in, predoctoral appointment or Have signed contract or made definite commitment) and those who are still seeking employment or postdoctoral study (item 17: Am negotiating with one or more specific organizations, Am seeking appointment but have no definite prospects, or Other). These four lines, when added to the prior line Postdoctoral Status Unknown, total 100 percent with allowance for rounding. The two lines Definite Postdoctoral Study and Seeking Postdoctoral Study add to give the percentage planning postdoctoral study listed in the table as Postdoctoral Study Plans, and the two lines Definite Employment and Seeking Employment add to give the percentage planning employment listed in the table as Planned Employment After Doctorate.

Percentages showing the distribution of doctorate recipients by work activity and by region of employment are based on those who have a definite employment commitment. They exclude those still seeking employment and those planning postdoctoral study as described in the categories above.

Table 3

Displayed in Table 3 are data on all sources of financial support in graduate school reported by doctorate recipients. The data in the table should be interpreted as follows: 210 male doctorate recipients in the physical sciences reported financial support from National Science Foundation fellowships during graduate school. This number is 5.9 percent of the male physical sciences doctorates who answered the question, and it is 42.3 percent of the males in all fields who reported NSF fellowship support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent.

Table 4

Table 4 shows the number of persons receiving a doctorate from universities in each of the 50 states, the District of Columbia, and Puerto Rico.

Table 5

The 1973 Summary Report was the first to include data for racial and ethnic groups. The tables in that report stimulated many requests for more detailed data by individual racial/ethnic group. Such data are provided in Table 5, first included in the 1974 Summary Report. Table 5 contains data by racial/ethnic group and by U.S. citizenship status for selected variables from Tables 2 and 3. Comparisons between the 1973 data and data for 1974 to 1982 are somewhat tenuous because of the large number of cases (8,952) for which racial/ethnic data were unavailable in 1973.

In 1977, the item on racial/ethnic group in the survey questionnaire was revised to coincide with the question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys. An explanation of the effects of these changes is detailed on page 13 of the 1977 Summary Report. Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to Asian in 1978. In 1980, the category Hispanic was subdivided into Puerto Rican, Mexican-American, and Other Hispanic to provide more detail for users of the racial/ethnic data. An additional revision to this item in 1980 involved the number of categories that may be checked. Prior to 1980 doctorate recipients could check more than one category to indicate their racial/ethnic background. When compiling the data, all persons who checked Asian, American Indian, or Hispanic and in addition checked "white" were included in the minority-group category. Those whose responses were "black" and who gave an additional response to any other category were designated as "black." Beginning in 1980, respondents were asked to check only one category. Evidence of this change was most pronounced in the American Indian group where the majority of the respondents formerly checked "white" in addition to American Indian.

Beginning with the 1982 survey, this item was again revised to separate questions on racial and ethnic groups. Respondents are first asked to check one of the four racial group categories (American Indian, Asian, black, or white) and then to indicate Hispanic heritage. For purposes of analysis all respondents who indicated Hispanic heritage, regardless of racial identification, are included in one of the three Hispanic groups. The remaining survey respondents are then broken out into their respective racial groups.

TABLE 1 NUMBER OF DOCTORATE RECIPIENTS BY SEX AND SUBFIELD, 1992

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
TOTAL ALL FIELDS	20291	10957	31248
PHYSICAL SCIENCES	3714	574	4288
MATHEMATICS	624	96	720
ALGEBRA	48	12	60
ANALYSIS AND FUNCTIONAL ANALYSIS	83	15	98
GEOMETRY	30	2	32
LOGIC	17		17
NUMBER THEORY	24	4	28
PROBABILITY, MATH STATISTICS	136	29	165
TOPOLOGY	40	5	45
COMPUTING THEORY AND PRACTICE	11		11
OPERATIONS RESEARCH	31	5	36
APPLIED	97	10	107
MATHEMATICS, GENERAL	78	7	85
MATHEMATICS, OTHER	29	7	36
COMPUTER SCIENCES	200	20	220
PHYSICS AND ASTRONOMY	929	84	1013
ASTRONOMY	41	11	52
ASTROPHYSICS	45	5	50
ATOMIC AND MOLECULAR	89	7	96
ACOUSTICS	11		11
FLUIDS	11	2	13
PLASMA	66	3	69
OPTICS	40	2	42
ELEMENTARY PARTICLES	114	4	118
NUCLEAR STRUCTURE	47	6	53
SOLID STATE	216	19	235
PHYSICS, GENERAL	154	13	167
PHYSICS, OTHER	95	12	107
CHEMISTRY	1407	271	1678
ANALYTICAL	163	27	190
INORGANIC	182	38	220
ORGANIC	438	78	516
NUCLEAR	17	3	20
PHYSICAL	274	49	323
THEORETICAL	26	6	32
PHARMACEUTICAL	44	11	55
POLYMER	45	5	50
CHEMISTRY, GENERAL	152	31	183
CHEMISTRY, OTHER	66	23	89
EARTH, ENVIRONMENTAL AND MARINE SCI	554	103	657
MINERALOGY, PETROLOGY	33	8	41
GEOCHEMISTRY	43	8	51
STRATIGRAPHY, SEDIMENTATION	39	8	47
PALEONTOLOGY	17	7	24
STRUCTURAL GEOLOGY	19	6	25
GEOPHYSICS (SOLID EARTH)	74	6	80
GEOMORPHOL, GLACIAL GEOLOGY	15	6	21
HYDROLOGY AND WATER RESOURCES	21	3	24
OCEANOGRAPHY	78	14	92
MARINE SCIENCES, OTHER	32	9	41
ATMOSPHERIC PHYSICS AND CHEMISTRY	17		17
ATMOSPHERIC DYNAMICS	19	3	22
ATMOSPHERIC SCIENCES, OTHER	25	1	26
ENVIRONMENTAL SCIENCES, GENERAL	17	5	22
ENVIRONMENTAL SCIENCES, OTHER	25	6	31
APPL GEOL, GEOL ENG, ECON GEOL	23	2	25
EARTH SCIENCES, GENERAL	34	5	39
EARTH SCIENCES, OTHER	23	6	29

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
ENGINEERING	2320	126	2446
AERONAUTICAL AND ASTRONAUTICAL	84	1	85
AGRICULTURAL	46	2	48
BIOMEDICAL	53	6	59
CIVIL	296	12	308
CHEMICAL	289	17	306
CERAMIC	19	1	20
COMPUTER	69	3	72
ELECTRICAL	452	17	469
ELECTRONICS	71	2	73
INDUSTRIAL	73	6	79
NUCLEAR	114	7	121
ENGINEERING MECHANICS	98	5	103
ENGINEERING PHYSICS	12		12
MECHANICAL	321	12	333
METALLURGY AND PHYSICAL MET	85	3	88
SYSTEMS DESIGN, SYSTEMS SCIENCE	47	2	49
OPERATIONS RESEARCH	53	5	58
FUEL TECH, PETROLEUM	25	2	27
SANITARY AND ENVIRONMENTAL	55	5	60
MINING	6	1	7
MATERIALS SCIENCE	134	13	147
ENGINEERING, GENERAL	31	1	32
ENGINEERING, OTHER	87	1	88
LIFE SCIENCES	4023	1542	5565
BIOLOGICAL SCIENCES	2469	1033	3502
BIOCHEMISTRY	484	166	650
BIOPHYSICS	78	13	91
BIOMETRICS, BIOSTATISTICS	41	17	58
ANATOMY	101	61	162
CYTOLOGY	23	18	41
EMBRYOLOGY	7	3	10
IMMUNOLOGY	92	58	150
BOTANY	104	42	146
ECOLOGY	131	42	173
MICROBIOLOGY AND BACTERIOLOGY	235	91	326
PHYSIOLOGY, ANIMAL	233	76	309
PHYSIOLOGY, PLANT	43	13	56
ZOOLOGY	153	45	198
GENETICS	111	65	176
ENTOMOLOGY	147	23	170
MOLECULAR BIOLOGY	143	81	224
NUTRITION AND/OR DIETETICS	49	70	119
NEUROSCIENCES	79	38	117
BIOL SCIENCES, GENERAL	135	62	197
BIOL SCIENCES, OTHER	80	49	129
AGRICULTURAL SCIENCES	959	171	1130
AGRONOMY	143	16	159
AGRICULTURAL ECONOMICS	159	20	179
ANIMAL HUSBANDRY	19	3	22
FOOD SCIENCE AND TECHNOLOGY	80	30	110
FISH AND WILDLIFE	58	7	65
FORESTRY	74	4	78
HORTICULTURE	69	19	88
SOILS AND SOIL SCIENCE	68	15	83
ANIMAL SCIENCE AND ANIMAL NUTRITION	116	17	133
PHYTOPATHOLOGY	87	27	114
AGRICULTURE, GENERAL	4	1	5
AGRICULTURE, OTHER	82	12	94
MEDICAL SCIENCES	595	338	933
PUBLIC HEALTH AND EPIDEMIOLOGY	87	72	159
VETERINARY MEDICINE	34	7	41
NURSING	4	102	106
PARASITOLOGY	12	2	14
ENVIRONMENTAL HEALTH	32	7	39
PATHOLOGY	71	26	97
PHARMACOLOGY	200	76	276
PHARMACY	69	12	81
MEDICAL SCIENCES, GENERAL	9	7	16
MEDICAL SCIENCES, OTHER	77	27	104

TABLE 1 (CONTINUED)

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
SOCIAL SCIENCES EXCL PSYCH	3959	2291	6250
ANTHROPOLOGY	195	138	333
COMMUNICATIONS	148	101	249
SOCIOLOGY	354	214	568
ECONOMICS	637	98	735
ECONOMETRICS	22	2	24
STATISTICS	38	5	43
GEOGRAPHY	87	19	106
AREA STUDIES	12	7	19
POLITICAL SCIENCE	353	106	459
PUBLIC ADMINISTRATION	135	37	172
INTERNATIONAL RELATIONS	66	11	77
CRIMINOLOGY	19	17	36
URBAN AND REGIONAL PLANNING	68	25	93
SOCIAL SCIENCES, GENERAL	20	13	33
SOCIAL SCIENCES, OTHER	85	64	149
PSYCHOLOGY	1720	1434	3154
CLINICAL	651	514	1165
COUNSELING AND GUIDANCE	191	155	346
DEVELOP AND GERONTOL	67	125	192
EDUCATIONAL	65	75	140
SCHOOL PSYCHOLOGY	80	86	166
EXPERIMENTAL	143	97	240
COMPARATIVE	6	6	12
PHYSIOLOGICAL	67	23	90
INDUSTRIAL AND PERSONNEL	60	23	83
PERSONALITY	19	17	36
PSYCHOMETRICS	7	1	8
SOCIAL	94	85	179
PSYCHOLOGY, GENERAL	137	103	240
PSYCHOLOGY, OTHER	133	124	257
HUMANITIES	2050	1510	3560
ART, HISTORY AND CRITICISM	43	95	138
HISTORY, AMERICAN	196	75	271
HISTORY, EUROPEAN	113	45	158
HISTORY, OTHER	163	71	234
HISTORY AND PHILOSOPHY OF SCIENCE	19	10	29
AMERICAN STUDIES	34	30	64
THEATRE AND THEATRE CRITICISM	47	46	93
MUSIC	279	123	402
SPEECH AS A DRAMATIC ART	27	11	38
ARCHEOLOGY	8	13	21
RELIGION	125	25	150
PHILOSOPHY	192	59	251
LINGUISTICS	101	90	191
COMPARATIVE LITERATURE	44	74	118
LANGUAGES AND LITERATURE	619	703	1322
AMERICAN	83	71	154
ENGLISH	281	336	617
GERMAN	29	45	74
RUSSIAN	8	16	24
FRENCH	47	72	119
SPANISH AND PORTUGUESE	76	102	178
ITALIAN	8	9	17
CLASSICAL	42	18	60
OTHER LANGUAGES	45	34	79
HUMANITIES, GENERAL	14	14	28
HUMANITIES, OTHER	26	26	52
PROFESSIONAL FIELDS	1004	487	1491
THEOLOGY	181	24	205
BUSINESS ADMINISTRATION	573	113	686
HOME ECONOMICS	14	84	98
JOURNALISM	15	3	18
SPEECH AND HEARING SCIENCES	50	79	129
LAW, JURISPRUDENCE	18	3	21
SOCIAL WORK	97	120	217
LIBRARY AND ARCHIVAL SCIENCE	32	51	83
PROFESSIONAL FIELDS, OTHER	24	10	34

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
EDUCATION	3201	3525	7226
FOUNDATIONS: SOCIAL, PHILOS	122	91	213
EDUCATIONAL PSYCHOLOGY	210	238	448
ELEMENTARY EDUCATION, GENERAL	49	100	149
SECONDARY EDUCATION, GENERAL	51	53	104
HIGHER EDUCATION	366	285	651
ADULT EDUC AND EXTENSION EDUC	124	133	257
EDUCATION MEAS AND STATISTICS	55	39	94
CURRICULUM AND INSTRUCTION	345	463	808
EDUCATIONAL ADMIN AND SUPERVISION	924	540	1464
GUIDANCE,COUNS,STUDENT PERSONNEL	283	256	539
SPECIAL ED (GIFTED,HANDICAPPED,ETC)	110	237	347
AUDIO-VISUAL MEDIA	44	32	76
TEACHING FIELDS	710	699	1409
AGRICULTURE	32	3	35
ART	21	34	55
BUSINESS	18	26	44
EARLY CHILDHOOD	11	66	77
ENGLISH	29	38	67
FOREIGN LANGUAGE	16	15	31
HOME ECONOMICS		33	33
INDUSTRIAL ARTS	36	3	39
MATHEMATICS	30	20	50
MUSIC	59	44	103
NURSING	1	24	25
PHYS ED, HEALTH, AND REC	206	145	351
READING	41	111	152
SCIENCE	58	28	86
SOCIAL SCIENCE	18	11	29
SPEECH	4	8	12
VOCATIONAL	113	78	191
OTHER TEACHING FIELDS	17	12	29
EDUCATION, GENERAL	198	223	421
EDUCATION, OTHER	110	136	246
OTHER AND UNSPECIFIED	20	6	26

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 1A NUMBER OF DOCTORATE RECIPIENTS BY CITIZENSHIP, RACIAL/ETHNIC GROUP, AND SUBFIELD, 1982

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP[1]								
			TOTAL	AMERICAN INDIAN	ASIAN	BLACK	WHITE	PUERTO RICAN	MEXICAN	OTHER HISPANIC	OTHER & UNK
TOTAL ALL FIELDS	31068[2]	4182	25533	22	1000	1133	22062	138	121	283	662
PHYSICAL SCIENCES	4288	838	3312	5	200	36	2931	2	6	25	100
MATHEMATICS	720	192	499	1	32	6	436	1	1	4	18
ALGEBRA	60	12	48		1	1	42		1	2	1
ANALYSIS AND FUNCTIONAL ANALYSIS	98	31	66		5		58				3
GEOMETRY	32	8	24		2	1	20			1	
LOGIC	17	1	16		1	1	14				
NUMBER THEORY	28	3	25		1		22				2
PROBABILITY, MATH STATISTICS	165	53	109		10	2	95				2
TOPOLOGY	45	5	40				38				2
COMPUTING THEORY AND PRACTICE	11	4	7				7				
OPERATIONS RESEARCH	36	15	21		1	1	18				1
APPLIED	107	24	83	1	7		70	1			4
MATHEMATICS, GENERAL	85	27	34		1		30			1	2
MATHEMATICS, OTHER	36	9	26		3		22				1
COMPUTER SCIENCES	220	59	155	1	12	1	136			1	4
PHYSICS AND ASTRONOMY	1013	242	740	3	43	11	644	3	1	5	30
ASTRONOMY	52	4	48		3	1	43				1
ASTROPHYSICS	50	6	44	1	1		38				4
ATOMIC AND MOLECULAR	96	23	73		7	1	62	2	1		
ACOUSTICS	11	3	8				7				1
FLUIDS	13	4	9		1		7			1	
PLASMA	69	15	54		4		47			1	2
OPTICS	42	9	33				33				
ELEMENTARY PARTICLES	118	35	83	1	3	3	73				3
NUCLEAR STRUCTURE	53	14	39		2	1	36				
SOLID STATE	235	51	184	1	10	4	161	1		3	4
PHYSICS, GENERAL	167	59	81		6	1	64				10
PHYSICS, OTHER	107	20	84		6		73				5
CHEMISTRY	1678	264	1362		87	15	1205	5	2	10	38
ANALYTICAL	190	19	171		6	1	162		1		1
INORGANIC	220	28	191		6	2	176	1		1	5
ORGANIC	516	86	428		18	4	385	2		4	15
NUCLEAR	20	5	15		1		14				
PHYSICAL	323	34	288		25	4	252		1	2	4
THEORETICAL	32	8	24				24				
PHARMACEUTICAL	55	11	42		7		35				
POLYMER	50	17	33		6	1	25			1	
CHEMISTRY, GENERAL	183	39	100		7	3	76	2		1	11
CHEMISTRY, OTHER	89	17	70		11		56			1	2
EARTH, ENVIRONMENTAL AND MARINE SCI	657	81	556		26	3	510		2	5	10
MINERALOGY, PETROLOGY	41	3	38				37				1
GEOCHEMISTRY	51	7	43		2		40			1	
STRATIGRAPHY, SEDIMENTATION	47	2	44				43		1		
PALEONTOLOGY	24		24				22			1	1
STRUCTURAL GEOLOGY	25	1	24				24				
GEOPHYSICS (SOLID EARTH)	80	13	65		9	1	53		1		1
GEOMORPHOL, GLACIAL GEOLOGY	21	2	19				19				
HYDROLOGY AND WATER RESOURCES	24	6	16		1	1	13				1
OCEANOGRAPHY	92	7	80		2		77				1
MARINE SCIENCES, OTHER	41	6	35		2		33				
ATMOSPHERIC PHYSICS AND CHEMISTRY	17		17			1	15				1
ATMOSPHERIC DYNAMICS	22	5	17		1		16				
ATMOSPHERIC SCIENCES, OTHER	26	3	23		3		19				1
ENVIRONMENTAL SCIENCES, GENERAL	22	4	18		1		17				
ENVIRONMENTAL SCIENCES, OTHER	31	2	27		1		25			1	
APPL GEOL, GEOL ENG, ECON GEOL	25	8	17				16			1	
EARTH SCIENCES, GENERAL	39	6	27		3		23				1
EARTH SCIENCES, OTHER	29	6	22		1		18			1	2

1/For more detailed explanation of racial/ethnic groups see item 8 on questionnaire on page 44 and description page 27.
2/Includes 1,326 individuals who did report their citizenship at time of doctorate.

TABLE 1A (CONTINUED)

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP[1]								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
ENGINEERING	**2066**	**1028**	**1661**	**3**	**246**	**20**	**1022**	**11**	**4**	**20**	**32**
AERONAUTICAL AND ASTRONAUTICAL	85	38	43		7	3	32			1	
AGRICULTURAL	48	23	24		2		22				
BIOMEDICAL	59	7	51	1	1		46				3
CIVIL	308	158	137		25		106	1		2	3
CHEMICAL	306	114	173		37	1	123	2		3	7
CERAMIC	20	5	14		3		11				
COMPUTER	72	39	32		7		22				3
ELECTRICAL	469	183	251		47	4	180	3	1	2	14
ELECTRONICS	73	23	50		9		38			1	2
INDUSTRIAL	79	28	49		8	1	37	2		1	
NUCLEAR	121	49	66	1	7	2	52		1	1	2
ENGINEERING MECHANICS	103	37	65		10	1	53			1	
ENGINEERING PHYSICS	12	1	11				11				
MECHANICAL	333	122	198		31	2	149		1	3	12
METALLURGY AND PHYSICAL MET	88	39	41		5		32			1	3
SYSTEMS DESIGN, SYSTEMS SCIENCE	49	23	24		3		20			1	
OPERATIONS RESEARCH	58	24	32		8	1	22	1			
FUEL TECH, PETROLEUM	27	8	15		3	1	7		1		3
SANITARY AND ENVIRONMENTAL	60	15	43		5	2	36				
MINING	7		6		1		4				1
MATERIALS SCIENCE	147	54	76		13	1	58			2	2
ENGINEERING, GENERAL	32	4	14	1	3		8				2
ENGINEERING, OTHER	88	34	46		11	1	30	2		1	1
LIFE SCIENCES	**5265**	**743**	**4453**	**12**	**211**	**72**	**4168**	**12**	**12**	**37**	**162**
BIOLOGICAL SCIENCES	3502	312	3079	5	142	42	2747	5	15	24	99
BIOCHEMISTRY	650	69	581		34	5	520		2	3	17
BIOPHYSICS	91	15	74		4	1	64			1	4
BIOMETRICS, BIOSTATISTICS	58	7	49		2	2	45				
ANATOMY	162	10	145		9		130			1	5
CYTOLOGY	41	1	37		3	1	33				
EMBRYOLOGY	10	1	9		1		8				
IMMUNOLOGY	150	10	136	1	7	2	118		1	3	4
BOTANY	146	17	126	1	3		116	1		2	3
ECOLOGY	173	11	162				155			1	6
MICROBIOLOGY AND BACTERIOLOGY	326	33	281		18	5	241	1	2	1	13
PHYSIOLOGY, ANIMAL	309	31	275	1	9	4	251	2	1	1	6
PHYSIOLOGY, PLANT	56	8	48		3		45				
ZOOLOGY	198	7	186	1	5	5	166		5		4
GENETICS	176	18	157		6	1	144			2	4
ENTOMOLOGY	170	37	131	1	7		114			3	6
MOLECULAR BIOLOGY	224	18	197		9	5	176		3	2	2
NUTRITION AND/OR DIETETICS	119	18	91		4	7	77			2	1
NEUROSCIENCES	117	1	115		5	1	105			1	3
BIOL SCIENCES, GENERAL	197	11	164		8	2	138	1		1	14
BIOL SCIENCES, OTHER	129	9	115		5	1	101		1		7
AGRICULTURAL SCIENCES	1130	332	773	3	26	9	707	2	1	7	18
AGRONOMY	159	53	103		5	2	91	1			4
AGRICULTURAL ECONOMICS	179	73	103		3	2	91			3	4
ANIMAL HUSBANDRY	22	2	20	1			19				
FOOD SCIENCE AND TECHNOLOGY	110	45	63		5	1	55		1	1	
FISH AND WILDLIFE	65	8	57				56				1
FORESTRY	78	13	60	1	1		55	1			2
HORTICULTURE	88	20	67		4		61			1	1
SOILS AND SOIL SCIENCE	83	30	52	1	2		49				
ANIMAL SCIENCE AND ANIMAL NUTRITION	133	28	100		3	3	90				4
PHYTOPATHOLOGY	114	23	88				86			1	1
AGRICULTURE, GENERAL	5	3	2		1		1				
AGRICULTURE, OTHER	94	34	58		2	1	53			1	1
MEDICAL SCIENCES	933	99	801	4	43	21	694	5	3	6	25
PUBLIC HEALTH AND EPIDEMIOLOGY	159	16	137		3	7	122	2	2		1
VETERINARY MEDICINE	41	13	24	1			23				
NURSING	106	3	96	1	2	5	83			1	4
PARASITOLOGY	14	4	10			1	9				
ENVIRONMENTAL HEALTH	39	4	35		3	1	30			1	
PATHOLOGY	97	12	83		2	3	78				
PHARMACOLOGY	276	14	255	2	15	2	220	1		1	14
PHARMACY	81	19	58		15	1	38	1	1	1	1
MEDICAL SCIENCES, GENERAL	16		15				14				1
MEDICAL SCIENCES, OTHER	104	14	88		3	1	77	1		2	4

TABLE 14 (CONTINUED)

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP[1]								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
SOCIAL SCIENCES EXCL PSYCH	**6230**	**387**	**5316**	**20**	**130**	**266**	**4666**	**31**	**62**	**56**	**116**
ANTHROPOLOGY	333	30	295		4	7	268	1	3	2	10
COMMUNICATIONS	249	25	220		5	11	202				2
SOCIOLOGY	568	54	494	2	19	29	414	6	7	5	12
ECONOMICS	735	195	491		36	18	409	2	1	9	16
ECONOMETRICS	24	9	15		2		11			2	
STATISTICS	43	20	21		5		16				
GEOGRAPHY	106	23	75		3	2	65		1		4
AREA STUDIES	19	1	17		1		14	1			1
POLITICAL SCIENCE	459	60	372	1	10	24	311	3	3	4	16
PUBLIC ADMINISTRATION	172	29	109		2	15	88		1	3	
INTERNATIONAL RELATIONS	77	22	49		3	6	36			1	3
CRIMINOLOGY	36		35			4	30				1
URBAN AND REGIONAL PLANNING	93	26	64	1	5	7	50				1
SOCIAL SCIENCES, GENERAL	33	3	26		2	1	23				
SOCIAL SCIENCES, OTHER	149	25	117		2	5	100	1	2	4	3
PSYCHOLOGY	3154	65	2914	16	31	115	2629	17	31	26	49
CLINICAL	1165	11	1114	6	11	44	1010	5	12	14	12
COUNSELING AND GUIDANCE	346	9	333	4		17	300	3	5	1	3
DEVELOP AND GERONTOL	192	6	186	1	4	10	166	2	1	2	
EDUCATIONAL	140	1	133		3	3	117	2	2	1	5
SCHOOL PSYCHOLOGY	166	1	160			3	153	1	1	1	1
EXPERIMENTAL	240	9	226		4	4	213	1	2	1	1
COMPARATIVE	12	1	11				10			1	
PHYSIOLOGICAL	90	3	87		3	1	81		2		
INDUSTRIAL AND PERSONNEL	83	3	80			2	78				
PERSONALITY	36		36		2	1	30				3
PSYCHOMETRICS	8		8				8				
SOCIAL	179	10	165	2	1	10	145	2	3		2
PSYCHOLOGY, GENERAL	240	3	192	3	3	14	149	1	2	3	17
PSYCHOLOGY, OTHER	257	8	193			6	169		1	2	5
HUMANITIES	**3520**	**229**	**3154**	**6**	**55**	**103**	**2762**	**27**	**26**	**29**	**39**
ART, HISTORY AND CRITICISM	138	4	128		3	1	117			4	3
HISTORY, AMERICAN	271	3	262		2	19	233		1	2	5
HISTORY, EUROPEAN	158	5	146		1		141				4
HISTORY, OTHER	234	26	189	1	5	8	160	1	2	3	9
HISTORY AND PHILOSOPHY OF SCIENCE	29	3	25				24				1
AMERICAN STUDIES	64	2	60	1	1	3	53				2
THEATRE AND THEATRE CRITICISM	93	9	82			4	74	1		1	2
MUSIC	402	20	352	1	3	13	317		2	1	15
SPEECH AS A DRAMATIC ART	38	1	35		2		33				
ARCHEOLOGY	21	2	19				18			1	
RELIGION	150	10	134		4	3	120		1	1	5
PHILOSOPHY	251	16	222		3	8	206		1	2	2
LINGUISTICS	191	45	131		8	3	109	2	1	2	6
COMPARATIVE LITERATURE	118	10	101		1		91	1	2	2	4
LANGUAGES AND LITERATURE	1322	66	1202	2	20	37	1015	22	16	60	30
AMERICAN	154	4	150	1	2	8	135			2	2
ENGLISH	617	23	565	1	9	15	517		3	4	16
GERMAN	74	3	71		1	1	68				1
RUSSIAN	24	1	23			2	21				
FRENCH	119	9	104		1	4	90			5	4
SPANISH AND PORTUGUESE	178	8	164		1	5	71	20	13	48	6
ITALIAN	17	2	11				11				
CLASSICAL	60	2	56		1		53			1	1
OTHER LANGUAGES	79	14	58		5	2	49	2			
HUMANITIES, GENERAL	28		22			2	19				1
HUMANITIES, OTHER	52	4	44	1	2	2	39				
PROFESSIONAL FIELDS	**1421**	**126**	**1217**	**2**	**66**	**32**	**1078**	**5**	**2**	**2**	**23**
THEOLOGY	205	18	178		2	3	172		1		
BUSINESS ADMINISTRATION	686	116	522	1	27	12	461		1	1	19
HOME ECONOMICS	98	5	91	1		9	80				1
JOURNALISM	18	5	13				13				
SPEECH AND HEARING SCIENCES	129	3	123			6	116			1	
LAW, JURISPRUDENCE	21	13	6		1		4				1
SOCIAL WORK	217	6	199		10	15	159	4	7		4
LIBRARY AND ARCHIVAL SCIENCE	83	19	62		2	7	52	1			
PROFESSIONAL FIELDS, OTHER	34	11	23		2		21				

TABLE 9A (CONTINUED)

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP[1]							
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEXICAN	OTHER HISPANIC	OTHER & UNK
EDUCATION	**7226**	**362**	**6602**	**22**	**112**	**606**	**5353**	**63**	**78**	**66**	**112**
FOUNDATIONS: SOCIAL, PHILOS	213	32	179	1	3	21	138	4	4	2	6
EDUCATIONAL PSYCHOLOGY	448	23	418	1	11	25	339	2	3	6	11
ELEMENTARY EDUCATION, GENERAL	149	6	139	1	2	11	121	1	2		1
SECONDARY EDUCATION, GENERAL	104	18	79		3	7	69				
HIGHER EDUCATION	651	51	593	3	7	73	485	4	6	5	10
ADULT EDUC AND EXTENSION EDUC	257	16	239	2	5	18	210	1	1		2
EDUCATION MEAS AND STATISTICS	94	8	83		4	4	66	1	4	2	2
CURRICULUM AND INSTRUCTION	808	72	727	3	17	76	584	9	16	16	6
EDUCATIONAL ADMIN AND SUPERVISION	1464	76	1367	6	16	156	1125	8	20	13	23
GUIDANCE,COUNS,STUDENT PERSONNEL	539	17	513		4	49	434	3	6	6	11
SPECIAL ED (GIFTED,HANDICAPPED,ETC)	347	11	329	1	4	16	302		2	2	2
AUDIO-VISUAL MEDIA	76	11	65		1	5	56	1			2
TEACHING FIELDS	1409	153	1226	6	18	87	1082	8	4	5	16
AGRICULTURE	35	8	25			3	22				
ART	55	10	43			5	36	1			1
BUSINESS	44	6	38			3	35				
EARLY CHILDHOOD	77	4	71			5	64	1	1		
ENGLISH	67	8	59		2	7	49	1			
FOREIGN LANGUAGE	31	9	21		2	1	14	1	1	1	1
HOME ECONOMICS	33	4	29			2	26	1			
INDUSTRIAL ARTS	39	7	32		1	1	28			1	1
MATHEMATICS	50	8	41		3	2	36				
MUSIC	103	4	94		1	5	88				
NURSING	25		24			4	20				
PHYS ED, HEALTH, AND REC	351	40	302	1	3	11	280	1			6
READING	152	3	146		2	8	130	1	1	2	2
SCIENCE	86	17	68	1	2	6	57				2
SOCIAL SCIENCE	29	5	24			4	20				
SPEECH	12	1	11		1		10				
VOCATIONAL	191	15	173	4	1	18	144	1	1	1	3
OTHER TEACHING FIELDS	29	4	25			2	23				
EDUCATION, GENERAL	421	39	239	2	11	32	169	1	4	1	19
EDUCATION, OTHER	246	36	206	3	6	26	153		6	6	6
OTHER AND UNSPECIFIED	**26**	**2**	**20**		**2**		**18**				

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2 STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1982[1/]

TOTAL ALL DOCTORATES

		1982 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	EMP FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
NUMBER IN FIELD		31048	1013	1678	657	3348	720	220	2644	6932	650	1313	1539	3502	933	1130
MALE	%	67.6	91.7	83.9	84.3	86.3	86.7	90.9	95.3	89.9	74.5	69.5	69.7	70.5	63.8	64.9
FEMALE		32.4	8.3	16.2	15.7	13.7	13.3	9.1	4.7	10.1	25.5	30.5	30.3	29.5	36.2	35.1
U.S. CITIZENSHIP	%	78.3	69.6	76.2	80.4	75.0	63.6	65.0	44.1	61.7	84.2	85.5	84.7	84.9	81.4	65.6
FOREIGN CITIZENSHIP		17.4	27.3	20.7	16.6	21.9	32.4	32.3	50.1	34.1	12.8	11.4	12.0	11.9	15.1	32.2
UNKNOWN		4.3	3.1	3.1	3.0	3.1	4.0	2.7	5.9	4.2	3.1	3.0	3.3	3.2	3.5	2.2
MARRIED	%	59.4	50.0	53.1	63.0	54.1	49.7	53.6	61.5	56.5	54.6	51.8	55.0	53.7	61.1	71.1
NOT MARRIED		35.1	44.9	42.6	33.2	41.4	45.3	42.7	31.7	38.1	41.2	43.6	39.8	41.5	34.0	26.1
UNKNOWN		5.5	5.0	4.4	3.8	4.5	5.0	3.6	6.8	5.4	4.2	4.6	5.1	4.8	4.9	2.8
MEDIAN AGE AT DOCTORATE		32.5	29.6	28.3	30.8	29.2	29.4	29.9	30.7	29.8	29.0	29.4	30.4	29.7	31.8	31.3
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		53.5	79.6	86.2	50.4	77.2	79.6	17.7	72.4	73.7	25.1	18.6	66.1	40.7	28.2	54.4
PERCENT WITH MASTERS		80.0	65.7	37.3	76.6	53.6	76.7	81.8	88.8	70.3	30.5	46.2	65.6	51.8	61.6	93.5
MEDIAN TIME LAPSE FROM BACC TO DOCT																
TOTAL TIME	YRS	9.6	7.4	6.0	8.3	6.8	7.0	7.7	8.0	7.3	6.7	6.9	7.8	7.2	8.7	8.2
REGISTERED TIME		6.5	6.4	5.2	6.4	5.8	5.9	6.4	5.9	5.8	5.8	5.9	6.3	6.1	6.1	5.8
POSTDOCTORAL STUDY PLANS	%	18.6	45.9	39.0	26.0	38.5	15.6	10.9	12.9	25.5	77.8	75.0	50.2	64.6	38.2	17.3
FELLOWSHIP		8.9	14.8	16.8	8.1	14.5	8.1	4.5	3.1	9.2	44.8	45.3	26.3	36.9	22.1	5.3
RESEARCH ASSOC		7.1	30.0	20.9	17.4	22.9	5.8	5.9	7.9	14.9	22.3	17.4	19.2	19.1	9.5	10.2
TRAINEESHIP		1.0	.6	.3	.5	.4	1.3	.5	1.5	.9	3.4	2.3	1.5	2.1	1.3	1.1
OTHER		1.6	.5	1.0	.2	.7	.4	.0	.5	.5	7.4	10.0	3.1	6.5	5.3	.7
PLANNED EMPLOYMENT AFTER DOCTORATE	%	74.6	46.9	55.0	68.9	55.3	78.1	85.5	79.6	67.9	18.0	20.0	42.5	29.5	56.4	77.4
EDUC INSTITUTION		42.8	12.1	7.7	22.2	11.9	54.7	35.5	22.3	21.1	5.5	10.2	23.0	15.0	27.8	40.3
INDUSTRY/BUSINESS		15.4	24.6	43.0	32.6	35.4	14.2	40.0	43.6	36.5	9.4	5.4	7.7	7.1	13.7	17.3
GOVERNMENT		8.0	8.1	2.7	11.3	6.0	6.4	7.3	9.7	7.5	1.5	2.4	6.7	4.1	8.1	14.3
NONPROFIT		4.9	.6	.4	1.5	.7	.6	1.4	1.6	1.0	.5	1.5	1.5	1.3	4.7	2.1
OTHER & UNKNOWN		3.4	1.5	1.2	1.4	1.3	2.2	1.4	2.4	1.8	1.1	.4	3.6	1.9	2.0	3.4
POSTDOCT STATUS UNKN	%	6.8	7.2	6.0	5.0	6.2	6.4	3.6	7.5	6.6	4.2	5.0	7.3	5.9	5.5	5.3
DEFINITE POSTDOCTORAL STUDY		13.6	33.4	31.0	19.2	29.4	11.1	6.4	7.6	18.5	62.9	62.8	37.6	51.8	30.1	11.0
SEEKING POSTDOCTORAL STUDY		5.0	12.5	7.9	6.8	9.1	4.4	4.5	5.3	7.0	14.9	12.2	12.5	12.8	8.0	6.3
DEFINITE EMPLOYMENT		54.9	35.1	46.6	54.9	44.8	58.9	67.7	59.0	52.4	13.2	15.4	26.8	20.0	41.7	57.8
SEEKING EMPLOYMENT		19.7	11.7	8.4	14.0	10.5	19.2	17.7	20.6	15.5	4.8	4.6	15.7	9.5	14.7	19.6
EMPLOYMENT ACTIVITY AFTER DOCTORATE PRIMARY ACTIVITY																
R & D	%	26.1	69.9	80.9	55.1	72.1	41.5	64.4	63.8	64.6	61.6	49.5	43.9	47.6	42.4	55.4
TEACHING		38.7	17.4	11.6	20.5	15.1	48.3	25.5	20.9	21.9	17.4	28.7	33.9	30.4	31.1	23.4
ADMINISTRATION		14.0	.8	1.3	5.0	2.1	.7	.7	1.5	1.6	3.5	4.5	3.1	3.6	10.3	3.1
PROF. SERVICES		12.9	1.7	1.9	7.5	3.2	4.0	4.0	6.5	4.7	9.3	9.9	9.7	9.7	10.3	6.4
OTHER		3.2	4.8	1.4	6.6	3.5	1.9	2.7	2.0	2.6	2.3	4.0	4.6	4.1	2.3	4.6
ACTIVITY UNKNOWN		5.1	5.3	2.8	5.3	4.0	3.5	2.7	5.4	4.5	5.8	3.5	4.8	4.6	3.6	7.0
SECONDARY ACTIVITY																
R & D		24.9	15.2	9.2	22.7	13.9	40.6	22.8	21.1	20.5	14.0	25.7	29.8	26.7	25.7	23.0
TEACHING		11.7	7.6	3.8	11.9	6.7	22.6	20.1	9.2	10.2	9.3	15.3	19.3	14.6	14.9	18.4
ADMINISTRATION		9.3	6.2	12.3	9.1	10.1	3.5	5.4	8.4	8.4	12.8	10.4	8.2	9.4	16.2	8.4
PROF. SERVICES		7.5	2.2	5.5	7.2	5.1	4.2	1.3	6.0	5.2	5.8	7.9	5.1	6.0	7.5	7.7
OTHER		2.2	.3	1.0	1.4	.9	.5	.7	1.0	.9	.0	.5	1.9	1.3	1.0	2.3
NO SECONDARY ACTIVITY		39.2	63.2	65.3	42.4	59.3	25.0	47.0	49.0	50.4	52.3	36.6	34.9	37.5	31.1	33.2
UNKNOWN		5.1	5.3	2.8	5.3	4.0	3.5	2.7	5.4	4.5	5.8	3.5	4.8	4.6	3.6	7.0
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	%	6.0	7.3	4.6	3.9	5.1	5.0	10.1	5.5	5.5	5.8	8.9	5.8	6.7	6.7	2.0
MIDDLE ATLANTIC		15.7	21.9	24.3	10.2	20.3	18.4	20.8	17.4	18.9	22.1	15.3	9.7	12.8	17.5	6.6
EAST NO CENTRAL		13.4	7.6	17.5	7.5	12.7	13.0	10.7	12.6	12.5	16.3	12.4	12.8	13.1	13.1	8.1
WEST NO CENTRAL		6.2	3.4	5.0	1.4	3.7	4.5	2.0	3.5	3.6	8.1	6.9	6.5	6.8	3.6	10.4
SOUTH ATLANTIC		14.7	15.7	15.6	9.4	14.1	15.1	10.1	11.5	12.9	15.1	13.4	15.3	14.7	16.5	10.6
EAST SO CENTRAL		4.4	2.0	3.1	1.1	2.3	4.0	.7	3.1	2.8	2.3	3.0	4.4	3.7	4.4	4.9
WEST SO CENTRAL		8.7	9.3	10.7	21.6	13.0	7.8	10.7	7.6	10.0	4.7	6.9	7.5	7.0	11.1	9.2
MOUNTAIN		4.9	6.5	1.8	12.5	5.5	4.2	6.7	5.5	5.4	1.2	3.0	6.1	4.6	4.1	5.8
PACIFIC & INSULAR		10.6	15.2	8.1	20.2	12.7	11.6	18.8	15.0	13.8	9.3	12.4	11.9	11.7	7.5	9.6
FOREIGN		9.6	9.3	4.7	7.8	6.5	12.7	6.7	13.7	10.4	8.1	14.9	15.5	14.6	11.8	29.1
REGION UNKNOWN		5.9	2.0	4.6	4.4	3.9	3.8	2.7	4.7	4.2	7.0	3.0	4.6	4.4	3.9	3.7

1/Refer to explanatory note on page 26 and the description of doctoral fields inside back cover.

TABLE 2 (CONTINUED)

TOTAL ALL DOCTORATES

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERNA'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED 2/
3565	3154	759	901	708	728	6250	18747	692	771	551	1546	3560	1491	7226	12277	24
72.3	54.5	86.8	60.9	78.2	65.5	63.3	75.8	71.0	47.2	46.3	60.8	57.6	67.3	51.2	55.0	83.3
27.7	45.5	13.2	39.1	21.8	34.5	36.7	24.2	29.0	52.8	53.7	39.2	42.4	32.7	48.8	45.0	16.7
80.4	90.9	58.4	83.8	70.9	74.7	81.8	73.9	87.4	90.4	78.6	82.9	84.7	77.5	86.6	84.9	
16.6	3.6	35.2	13.1	19.6	21.2	12.6	21.7	7.8	5.8	16.9	11.1	10.2	17.3	9.9	10.9	
3.0	5.5	6.5	3.1	9.5	4.1	5.6	4.3	4.8	3.6	4.5	6.0	5.1	5.2	3.5	4.2	
58.5	32.9	58.1	56.6	59.6	57.8	55.4	36.7	56.9	55.9	57.9	54.2	55.7	64.5	67.1	63.5	
37.1	40.5	34.3	39.5	27.7	36.1	37.6	37.7	36.1	38.9	36.8	38.3	37.8	29.4	28.3	31.2	
4.4	6.7	7.6	3.9	12.7	6.0	7.0	5.6	6.9	5.2	5.3	7.5	6.5	6.0	4.6	5.3	
30.3	31.5	31.1	33.6	33.9	33.5	32.3	30.7	33.7	34.0	34.8	33.9	34.0	34.9	37.4	35.9	
41.4	66.2	61.3	58.0	48.0	23.5	57.4	58.7	68.9	74.4	61.5	50.7	61.1	36.2	39.9	45.6	
61.9	79.3	73.1	85.5	86.2	91.2	81.6	71.6	88.4	89.0	87.3	86.7	87.6	91.6	95.6	92.8	
7.6	8.6	8.3	10.3	10.4	10.4	9.2	7.9	11.1	11.2	11.3	11.1	11.2	11.7	13.6	12.6	
6.0	6.5	6.1	7.8	7.1	6.5	6.7	6.1	8.4	8.1	8.1	7.7	8.0	6.9	7.2	7.4	
50.6	15.7	4.1	13.1	5.6	6.0	11.6	28.3	8.5	1.9	5.3	5.9	5.4	2.1	3.2	3.7	
28.0	8.5	1.3	7.2	2.8	2.1	6.1	13.7	5.5	.1	2.7	3.2	2.9	.8	1.0	1.5	
15.7	3.0	1.3	3.7	1.6	2.7	2.7	11.1	1.0	.5	.7	1.0	.8	.7	1.1	1.0	
1.8	3.0	.9	.4	.4	.7	1.8	1.9	.4	.3	.2	.4	.3	.2	.5	.4	
5.1	1.1	.5	1.8	.8	.5	1.1	2.1	1.6	1.0	1.6	1.4	1.4	.4	.7	.9	
43.7	77.0	89.1	80.4	81.2	86.5	80.6	64.9	82.2	91.4	86.2	84.3	85.7	90.3	90.9	89.4	
22.2	28.3	56.0	54.1	48.7	58.4	41.2	28.1	56.8	76.1	72.2	64.9	66.9	63.2	64.8	65.2	
10.3	14.5	13.2	9.2	9.5	11.5	12.7	20.8	8.7	7.7	4.4	8.0	7.5	7.8	7.1	7.3	
6.9	12.8	12.8	7.3	14.1	8.4	11.7	8.7	6.8	1.7	2.2	1.9	2.8	5.8	9.4	7.0	
2.0	15.7	2.5	6.0	4.2	4.3	10.1	4.3	4.6	1.8	1.1	5.4	3.8	10.9	5.6	5.7	
2.2	5.8	4.6	3.6	4.7	4.0	5.0	3.0	5.3	4.2	6.4	4.2	4.7	2.7	4.1	4.1	
5.7	7.3	6.9	6.5	13.1	7.4	7.8	6.7	9.2	6.6	8.5	9.8	8.8	7.5	5.8	6.9	
39.9	10.7	2.1	7.3	3.4	4.0	7.6	21.2	4.0	.9	2.9	3.4	2.9	1.1	1.7	2.0	
10.7	5.0	2.0	5.8	2.3	2.1	4.1	7.1	4.5	1.0	2.4	2.5	2.6	1.0	1.5	1.8	
31.3	53.5	75.4	54.1	58.2	62.5	57.8	47.9	52.6	60.1	56.1	57.8	57.0	74.1	67.8	65.4	
12.4	23.5	13.7	26.3	23.0	24.0	22.7	17.0	29.6	31.4	30.1	26.5	28.7	16.2	23.1	23.9	
49.4	14.8	34.6	28.7	17.2	18.2	20.5	43.9	9.9	2.2	5.8	5.0	5.4	12.5	5.2	6.2	
27.9	19.0	48.4	52.4	47.3	58.9	36.4	28.9	61.0	78.6	79.3	73.2	73.2	58.0	37.9	49.6	
4.9	7.2	3.5	7.8	19.2	8.8	8.3	4.9	10.4	6.9	5.2	5.5	6.7	8.7	34.9	24.1	
8.6	53.7	3.7	3.9	4.6	7.0	27.6	14.7	4.7	4.3	3.2	5.3	4.6	12.9	13.1	10.9	
3.9	1.8	5.1	2.7	4.9	2.9	2.9	3.0	7.1	5.8	1.6	5.9	5.5	3.2	2.5	3.3	
5.3	3.6	4.4	4.5	6.8	4.2	4.3	4.6	6.9	2.2	4.9	5.0	4.7	4.8	6.5	5.8	
25.1	23.6	42.1	39.2	32.5	40.0	31.7	25.9	29.4	36.5	41.1	30.2	33.2	40.2	16.3	23.8	
16.1	14.6	15.2	11.1	11.6	10.1	13.2	12.5	6.0	4.8	4.9	7.3	6.1	14.3	12.0	10.8	
10.6	11.0	5.8	8.4	9.7	9.9	8.5	9.3	10.2	7.1	7.4	7.4	7.8	8.4	10.1	9.3	
6.9	8.4	2.8	5.3	6.3	6.6	6.6	6.1	4.7	4.3	1.0	6.2	4.7	7.3	11.1	9.0	
1.6	2.6	1.4	1.6	2.6	3.5	2.4	1.6	2.7	3.7	1.3	4.9	3.7	2.3	2.7	2.9	
34.5	36.4	28.3	29.8	30.8	25.7	32.3	40.0	40.1	41.5	39.5	39.0	39.8	22.7	41.3	38.3	
5.3	3.6	4.4	4.5	6.8	4.2	4.3	4.6	6.9	2.2	4.9	5.0	4.7	4.8	6.5	5.8	
4.9	7.5	9.4	7.8	6.1	5.1	7.4	6.1	9.9	5.8	8.4	7.2	7.5	4.5	5.4	5.9	
11.5	21.7	17.5	15.8	15.5	14.1	18.6	17.3	14.3	15.8	21.7	15.9	16.5	13.0	12.9	13.8	
11.2	14.0	10.7	12.1	11.2	14.3	12.9	12.4	13.2	16.2	11.0	13.4	13.7	14.6	14.7	14.4	
7.5	6.5	4.7	6.8	6.3	6.2	6.2	5.4	5.8	8.2	5.8	6.8	7.3	5.4	7.6	7.1	
13.5	14.5	18.9	16.6	18.7	14.5	15.9	14.3	18.1	15.1	12.0	12.9	14.2	17.1	15.2	15.2	
4.3	3.6	2.4	4.3	2.9	4.8	3.6	3.4	2.7	4.8	4.5	4.1	4.1	6.2	5.9	5.5	
8.7	5.7	5.2	6.4	7.0	7.5	6.1	8.2	8.8	9.5	6.8	7.6	8.1	12.3	9.2	9.4	
4.9	5.6	3.1	4.9	3.4	5.3	4.8	5.1	3.3	5.6	3.6	3.5	3.9	4.6	4.9	4.6	
10.0	11.4	6.8	9.2	8.3	10.3	9.9	11.5	7.1	7.8	11.3	11.5	9.9	8.6	9.7	9.6	
19.3	3.0	16.8	11.9	12.6	14.3	8.9	11.5	8.2	3.5	7.6	9.0	7.3	10.0	7.1	7.6	
4.0	6.6	4.4	4.1	8.0	3.7	5.7	4.8	5.5	8.0	7.4	8.1	7.5	3.5	7.7	7.1	

2/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2 STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1982[1/]

DOCTORATES: MEN

		1982 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	EMP FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
TOTAL MALE		20991	929	1407	334	2890	624	200	2520	6234	484	912	1073	2469	595	959
MALE AS A PERCENT OF TOTAL DOCTORATES	%	67.6	91.7	83.8	84.3	86.3	86.7	90.9	95.3	89.9	74.5	69.5	69.7	70.5	63.8	84.9
U.S. CITIZENSHIP	%	73.9	70.0	76.3	78.7	74.7	61.9	63.0	43.3	60.3	84.9	84.6	83.3	84.1	78.3	63.7
FOREIGN CITIZENSHIP		21.5	26.7	20.8	18.1	22.1	36.0	34.0	50.8	35.3	11.8	12.5	12.8	12.5	18.3	34.0
UNKNOWN		4.5	3.3	3.0	3.2	3.1	4.2	3.0	6.0	4.6	3.3	2.9	3.9	3.4	3.4	2.3
MARRIED	%	62.7	48.8	53.4	65.0	54.2	49.2	53.0	61.9	56.8	54.5	54.9	58.6	56.5	66.2	73.6
NOT MARRIED		31.5	45.7	42.1	30.9	41.1	45.7	43.0	31.2	37.6	41.1	40.4	35.5	38.4	28.9	23.5
UNKNOWN		5.9	5.5	4.6	4.2	4.7	5.1	4.0	6.8	5.6	4.3	4.7	5.9	5.1	4.9	2.9
MEDIAN AGE AT DOCTORATE		32.0	29.6	28.3	30.9	29.2	29.4	29.8	30.8	29.9	28.9	29.5	30.6	29.8	31.0	31.6
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		55.1	79.0	86.9	50.0	77.3	78.5	17.0	73.4	73.9	26.9	19.1	63.6	39.9	20.0	58.8
PERCENT WITH MASTERS		78.0	65.8	36.0	77.8	53.6	75.8	80.5	88.8	70.9	28.9	48.0	67.0	52.5	55.6	93.4
MEDIAN TIME LAPSE FROM BACC TO DOCT																
TOTAL TIME	YRS	9.0	7.3	6.0	8.4	6.8	7.0	7.6	8.0	7.3	6.6	6.9	7.8	7.2	8.1	8.3
REGISTERED TIME		6.3	6.6	5.2	6.4	5.8	5.8	6.3	5.7	5.8	5.7	5.9	6.4	6.1	6.1	5.8
POSTDOCTORAL STUDY PLANS	%	20.0	45.0	39.7	25.3	38.7	15.7	11.0	12.7	25.0	77.7	74.3	48.6	63.8	40.7	15.8
FELLOWSHIP		9.3	14.7	17.0	6.9	14.3	8.0	4.0	2.9	8.7	45.2	44.1	25.8	36.4	22.7	4.9
RESEARCH ASSOC		8.1	29.1	21.6	17.9	23.3	5.9	6.5	7.8	14.7	21.5	16.0	17.9	17.9	11.1	9.4
TRAINEESHIP		1.0	.6	.2	.5	.4	1.3	.5	1.5	.9	3.7	2.4	1.5	2.3	1.2	.9
OTHER		1.7	.5	.9	.0	.6	.5	.0	.5	.5	7.2	11.8	3.4	7.1	5.7	.6
PLANNED EMPLOYMENT AFTER DOCTORATE	%	73.2	47.3	54.6	69.7	55.1	77.6	85.0	79.7	68.3	19.0	20.7	43.6	30.3	54.1	79.0
EDUC INSTITUTION		39.6	12.2	7.2	32.6	11.7	55.0	35.5	22.1	21.0	5.8	9.8	23.7	15.0	21.7	41.7
INDUSTRY/BUSINESS		18.0	24.8	43.7	32.3	35.6	13.6	40.0	43.9	36.8	10.5	6.0	8.3	7.9	17.5	16.9
GOVERNMENT		8.6	8.6	2.4	12.1	6.3	6.6	7.5	9.7	7.7	1.7	3.2	7.5	6.8	9.1	15.3
NONPROFIT		4.4	.3	.4	1.8	.7	.5	1.5	1.6	1.1	.4	1.6	.9	1.1	4.5	2.1
OTHER & UNKNOWN		2.5	1.4	.9	.9	1.0	1.9	.5	2.4	1.7	.6	.1	3.2	1.5	1.3	3.0
POSTDOCT STATUS UNKN	%	6.8	7.8	5.7	5.1	6.2	6.7	6.0	7.7	6.8	3.5	4.9	7.7	5.8	5.2	5.1
DEFINITE POSTDOCTORAL STUDY		14.7	32.8	31.7	18.4	29.5	10.9	6.0	7.4	18.0	62.6	62.1	35.3	50.5	33.3	9.9
SEEKING POSTDOCTORAL STUDY		5.3	12.2	8.0	6.9	9.1	4.8	5.0	5.2	7.0	15.1	12.3	13.3	13.3	7.4	5.9
DEFINITE EMPLOYMENT		55.5	35.7	47.1	57.2	45.4	59.0	67.5	59.2	53.0	14.3	16.4	28.1	21.1	42.6	60.8
SEEKING EMPLOYMENT		17.7	11.3	7.5	12.5	9.8	18.8	17.5	20.4	15.2	4.8	4.3	15.6	9.3	11.8	18.2
EMPLOYMENT ACTIVITY AFTER DOCTORATE																
PRIMARY ACTIVITY																
R & D	%	31.6	70.5	82.5	55.8	73.0	41.8	64.4	64.1	65.2	60.9	51.3	66.8	50.0	51.2	56.1
TEACHING		35.2	17.2	10.4	20.2	14.5	48.9	25.9	20.6	21.5	14.5	24.7	32.9	28.1	18.3	23.0
ADMINISTRATION		13.2	.9	1.2	5.4	2.1	.3	.7	1.5	1.6	2.9	6.0	3.3	4.0	9.9	3.3
PROF. SERVICES		11.5	1.3	1.7	6.9	2.9	3.5	4.4	6.4	4.6	11.6	10.7	8.0	9.2	13.3	6.2
OTHER		3.2	4.5	1.4	6.6	3.4	1.6	3.0	2.0	2.6	2.9	4.0	4.3	4.0	3.2	3.9
ACTIVITY UNKNOWN		5.2	5.4	2.9	5.0	4.0	3.8	1.5	5.4	4.5	7.2	3.5	4.7	4.6	4.0	7.5
SECONDARY ACTIVITY																
R & D		24.2	14.5	8.3	22.7	13.3	40.8	23.7	20.6	20.1	11.6	24.7	30.2	26.2	19.8	22.8
TEACHING		12.1	8.1	4.2	11.7	7.0	23.1	21.5	9.2	10.4	11.6	15.3	14.6	14.6	17.1	19.7
ADMINISTRATION		9.4	6.6	13.1	10.4	10.8	3.8	3.9	8.6	8.7	15.9	10.0	8.0	9.6	18.7	8.4
PROF. SERVICES		6.9	2.4	5.3	6.6	4.9	3.5	1.5	6.0	5.1	2.9	8.0	5.6	6.0	8.7	8.1
OTHER		1.9	.3	1.1	.9	.8	.5	.7	1.0	.9	.0	.7	2.0	1.3	1.2	2.2
NO SECONDARY ACTIVITY		40.2	62.7	65.1	42.6	59.0	24.5	45.2	49.6	50.5	50.7	38.0	34.9	37.9	30.6	31.2
UNKNOWN		5.2	5.4	2.9	5.0	4.0	3.8	1.5	5.4	4.5	7.2	3.5	4.7	4.6	4.0	7.5
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	%	5.7	7.2	4.7	4.1	5.2	5.4	8.9	5.5	5.5	5.8	8.7	4.3	5.8	7.1	2.1
MIDDLE ATLANTIC		15.4	21.1	23.0	9.5	19.2	18.2	20.7	17.5	18.4	23.2	14.7	9.3	12.7	18.7	6.5
EAST NO CENTRAL		13.3	7.2	18.3	8.2	13.0	12.5	11.1	12.9	12.8	17.6	13.3	12.0	13.1	13.5	7.9
WEST NO CENTRAL		6.1	3.6	5.8	1.6	4.1	2.7	2.2	3.5	3.6	8.7	6.0	7.3	7.1	3.6	9.8
SOUTH ATLANTIC		13.9	16.0	15.0	9.8	14.0	13.9	10.4	11.1	12.3	15.9	13.3	16.6	14.6	16.7	9.6
EAST SO CENTRAL		4.2	2.1	3.5	1.3	2.6	4.3	.7	3.1	3.0	2.9	2.7	5.0	4.0	4.8	5.0
WEST SO CENTRAL		8.8	9.6	11.3	20.2	13.0	7.6	11.9	7.6	9.8	1.4	6.7	7.6	6.5	8.7	9.8
MOUNTAIN		4.9	6.9	1.7	12.6	5.6	4.6	6.7	5.6	5.6	1.6	5.3	5.6	4.6	6.0	5.5
PACIFIC & INSULAR		10.5	15.6	8.3	20.5	13.0	12.2	17.8	14.7	13.9	8.7	12.7	10.6	11.0	5.2	9.8
FOREIGN		11.8	9.0	4.7	8.2	6.3	14.1	7.6	14.1	10.7	5.8	15.3	10.3	15.8	15.1	30.9
REGION UNKNOWN		5.3	1.8	4.7	4.1	3.8	4.3	2.2	4.8	4.3	8.7	5.3	5.3	5.2	2.8	3.3

1/Refer to explanatory note on page 26 and the description of doctoral fields inside back cover.

TABLE 2 (CONTINUED)

DOCTORATES: MEN

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERNT'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED 2/
4023	1720	659	549	554	477	3959	14216	491	364	255	940	2050	1004	3701	6755	20
72.3	54.5	86.8	60.9	79.2	65.5	63.3	75.8	71.0	47.2	46.3	60.8	37.6	67.3	51.2	55.0	55.3
78.4	90.3	57.2	81.4	67.0	69.6	77.8	70.3	84.5	85.2	78.8	81.3	83.0	72.5	83.2	81.6	
18.5	3.8	36.0	15.1	22.9	25.8	16.0	25.2	9.6	8.2	16.9	12.0	11.4	21.8	13.2	13.9	
3.1	5.9	6.8	3.5	10.1	4.6	6.2	4.5	5.9	5.6	4.3	6.7	5.7	5.7	3.6	4.5	
62.0	56.9	59.0	62.7	61.4	64.8	59.6	59.0	61.1	56.9	58.0	58.7	58.9	73.9	76.4	70.3	
33.4	36.1	32.6	32.6	24.9	28.7	32.6	35.0	31.0	37.9	36.9	33.2	34.0	22.3	18.9	24.0	
4.6	7.0	8.3	4.7	13.7	6.5	7.8	5.9	7.9	5.2	5.1	8.1	7.2	6.8	4.7	5.7	
30.3	31.2	31.2	33.4	33.9	33.7	32.2	30.5	33.4	32.8	34.4	33.8	33.6	35.0	36.9	35.6	
41.5	70.2	61.5	56.5	48.7	27.3	58.7	60.5	69.7	73.6	58.0	52.1	60.9	37.5	36.1	45.8	
62.7	77.4	73.1	85.4	86.5	91.0	80.7	71.3	87.6	86.8	87.5	86.1	86.7	90.9	95.0	91.9	
7.5	8.3	8.6	10.1	10.1	10.3	9.1	7.8	10.9	10.3	11.1	10.9	10.8	11.6	13.2	12.2	
6.0	6.4	6.1	7.7	7.1	6.4	6.6	6.0	8.3	7.9	7.9	7.5	7.8	6.9	7.3	7.4	
49.0	15.3	4.1	12.8	6.3	6.5	10.7	27.8	7.3	2.2	3.9	5.7	5.6	2.2	2.9	3.6	
26.8	8.7	1.4	6.6	3.1	2.1	5.6	13.0	4.7	.3	2.7	2.2	2.5	.9	1.0	1.9	
14.9	3.0	1.2	4.2	2.0	2.7	2.7	11.4	1.0	.5	1.2	1.4	1.1	.9	.9	1.0	
1.8	2.4	.9	.4	.5	.6	1.4	1.3	.6	.3	.6	.5	.5	.2	.4	.4	
5.5	1.2	.6	1.6	.7	.8	1.0	2.1	1.2	1.1	1.6	1.6	1.4	.3	.6	.8	
45.5	77.5	88.3	81.1	79.8	56.4	81.2	65.4	82.9	90.9	87.5	84.4	85.6	89.4	91.6	89.4	
22.4	27.3	54.8	54.3	47.5	58.5	42.2	27.3	56.6	75.0	75.7	64.8	60.0	62.0	66.2	65.5	
11.5	15.6	13.7	10.2	9.2	11.7	13.2	23.1	8.8	9.1	3.9	6.6	7.5	7.8	7.1	7.5	
7.9	16.4	13.6	8.2	14.8	9.0	12.8	9.2	7.7	1.4	3.1	2.2	3.5	5.5	10.2	7.4	
1.8	13.8	2.3	5.6	3.2	4.8	9.0	3.5	4.9	1.6	1.2	7.4	5.0	12.5	5.9	5.6	
1.9	4.5	4.2	2.7	5.1	2.3	4.0	2.6	4.9	4.1	3.5	3.1	3.8	2.0	2.6	2.9	
5.6	7.2	7.6	6.2	13.9	7.3	8.1	6.8	9.6	6.9	6.7	9.9	8.9	8.4	5.5	6.9	
38.3	10.9	2.1	7.3	4.0	4.2	7.2	20.7	3.1	1.4	3.9	3.1	2.9	1.5	1.8	2.1	
10.7	4.4	2.0	5.5	2.3	2.1	3.6	7.1	4.5	.8	2.0	2.7	2.7	.9	1.1	1.9	
33.7	56.2	74.2	55.2	56.0	63.5	59.9	49.5	53.8	58.0	63.1	60.6	58.8	76.4	71.0	68.1	
11.8	21.3	14.1	25.9	23.8	22.9	21.3	15.9	29.1	33.0	24.3	23.7	26.7	13.3	20.3	21.3	
52.8	14.4	35.8	29.7	17.1	18.5	21.6	46.1	9.8	1.4	6.2	4.2	5.2	12.0	5.3	6.3	
24.1	15.0	46.6	53.1	46.1	58.1	37.5	27.4	58.7	78.7	77.0	72.3	71.1	57.9	32.7	47.0	
4.8	7.4	4.5	5.3	19.7	7.9	8.2	4.4	12.5	9.2	5.6	5.6	7.2	8.9	40.8	26.7	
8.7	54.3	3.5	4.0	4.5	7.3	24.9	12.2	5.7	4.3	5.0	6.1	5.6	12.6	11.9	10.4	
5.8	1.6	5.3	3.6	5.5	4.3	3.5	5.1	6.4	6.6	.6	6.3	5.6	3.5	2.4	5.4	
5.8	3.5	4.5	4.3	7.1	4.0	4.3	4.7	6.8	2.8	5.9	5.4	5.3	3.1	6.7	6.1	
23.5	24.0	40.9	38.9	31.3	39.3	32.3	24.9	29.9	40.8	40.4	27.4	32.0	39.6	14.1	23.0	
17.2	14.3	16.6	12.2	12.3	11.2	13.8	12.9	7.2	3.3	5.6	7.0	6.2	14.6	12.2	11.0	
10.8	11.9	5.9	9.9	8.7	8.6	9.6	9.6	9.5	8.1	7.5	9.1	8.8	5.0	10.0	9.6	
7.4	8.1	3.1	4.5	5.2	7.9	6.2	5.9	4.9	2.8	.6	6.7	4.6	6.8	10.7	8.9	
1.7	2.3	.8	1.3	2.6	2.6	2.0	1.6	1.9	2.8	1.2	4.6	3.2	2.2	2.4	2.6	
33.7	35.8	28.2	29.0	32.9	28.4	31.8	40.8	39.8	39.3	39.1	39.8	39.6	23.7	45.8	39.4	
5.8	3.5	4.5	4.3	7.1	4.0	4.3	4.7	6.8	2.8	5.6	5.4	5.3	5.1	6.7	6.1	
4.4	6.0	9.0	7.3	6.5	4.3	7.4	5.3	9.1	5.2	4.3	5.8	6.2	5.0	5.1	5.3	
11.1	19.3	17.6	14.9	16.8	12.5	17.2	16.6	14.8	14.7	26.7	13.7	15.8	11.9	13.0	13.5	
10.9	16.1	11.0	12.9	10.6	11.9	12.6	12.6	11.7	15.6	9.9	16.2	13.3	14.6	19.4	16.5	
7.6	6.0	4.5	6.3	5.8	6.9	5.5	5.1	9.1	10.9	6.2	7.5	8.3	4.6	8.0	7.9	
12.6	16.7	17.6	16.2	18.1	14.2	15.9	13.7	16.9	11.8	13.0	12.6	13.9	17.1	13.8	14.4	
4.6	3.6	2.5	5.9	3.2	4.6	3.8	3.5	2.3	3.6	2.5	4.7	3.7	6.1	5.9	5.3	
8.3	6.8	5.3	6.6	7.4	7.3	6.6	8.5	9.5	11.8	8.7	9.6	9.9	12.6	8.1	9.3	
4.8	6.1	2.9	4.3	3.2	5.0	4.7	5.1	3.4	5.2	3.7	3.9	4.0	3.9	5.2	4.7	
9.4	11.6	7.6	8.6	7.6	10.2	9.7	11.6	6.1	6.2	9.3	10.4	8.5	8.7	9.2	9.0	
22.1	3.7	17.2	16.2	14.2	19.1	11.2	13.1	11.0	4.7	8.7	9.8	9.3	11.5	8.5	9.7	
3.9	6.1	4.9	3.3	6.8	4.0	5.3	4.5	4.2	10.0	6.8	7.7	7.2	3.8	7.0	6.5	

2/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2 STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1982[1/]

DOCTORATES: WOMEN

		1982 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	CMP FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
TOTAL FEMALE		10057	84	271	103	458	96	20	124	698	166	401	466	1033	338	171
FEMALE AS A PERCENT OF TOTAL DOCTORATES	%	32.6	8.3	16.2	15.7	13.7	13.3	9.1	4.7	10.1	25.5	30.5	30.3	29.5	36.2	15.1
U.S. CITIZENSHIP	%	87.6	65.5	76.0	89.3	77.1	75.0	85.0	59.7	73.9	81.9	87.5	87.8	86.7	86.7	76.0
FOREIGN CITIZENSHIP		8.9	34.5	20.3	8.7	20.3	21.9	15.0	36.3	23.2	15.7	9.0	10.5	10.6	9.5	22.2
UNKNOWN		3.7	.0	3.7	1.9	2.6	3.1	.0	4.0	2.9	2.4	3.5	1.9	2.6	3.8	1.8
MARRIED	%	52.6	64.3	51.3	52.4	53.9	53.1	60.0	52.4	53.7	54.8	44.6	49.8	47.2	52.1	59.7
NOT MARRIED		42.6	35.7	44.6	45.6	43.2	42.7	40.0	40.3	42.6	41.6	50.9	49.5	48.9	42.9	40.9
UNKNOWN		4.8	.0	4.1	1.9	2.8	4.2	.0	7.3	3.7	3.6	4.5	3.4	3.9	5.0	2.3
MEDIAN AGE AT DOCTORATE		34.0	29.8	28.2	29.8	28.8	29.7	32.0	29.3	29.2	29.1	29.2	30.2	29.6	34.0	29.9
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		50.1	85.7	82.7	52.4	76.4	66.5	25.0	53.2	72.2	19.9	17.5	71.9	42.4	42.6	29.8
PERCENT WITH MASTERS		84.2	65.3	43.9	69.9	53.7	82.3	95.0	89.5	65.2	34.9	41.9	62.4	50.0	72.2	95.6
MEDIAN TIME LAPSE FROM BACC TO DOCT																
TOTAL TIME	YRS	11.0	7.5	9.2	7.7	8.7	7.6	10.0	7.6	7.0	7.1	7.0	7.8	7.5	10.6	7.6
REGISTERED TIME		6.8	6.3	5.2	6.6	5.7	6.5	6.8	5.9	5.8	6.0	5.9	6.2	6.1	8.1	5.5
POSTDOCTORAL STUDY PLANS	%	15.6	56.0	35.1	30.1	37.8	14.6	10.0	17.7	30.2	78.3	76.6	53.6	66.5	33.7	25.1
FELLOWSHIP		8.1	19.5	15.9	14.6	15.5	8.3	10.0	7.3	12.9	43.4	48.1	27.5	38.0	21.0	7.6
RESEARCH ASSOC		5.0	40.5	17.0	14.6	20.7	5.2	.0	9.7	16.0	24.7	20.7	22.3	22.1	9.8	14.6
TRAINEESHIP		1.1	.0	.7	.0	.4	1.0	.0	.8	.6	2.4	2.0	1.5	1.8	1.5	1.8
OTHER		1.5	.0	1.5	1.0	1.1	.0	.0	.0	.7	7.8	5.7	2.4	4.5	4.4	1.2
PLANNED EMPLOYMENT AFTER DOCTORATE	%	77.6	42.9	57.2	69.0	56.3	81.3	90.0	77.4	64.5	18.1	18.2	39.9	27.5	60.4	68.4
EDUC INSTITUTION		49.5	11.9	10.7	20.4	13.1	53.1	35.0	26.6	21.6	4.8	11.2	21.5	14.6	38.5	32.2
INDUSTRY/BUSINESS		10.1	22.6	39.1	36.0	34.9	17.7	40.0	37.9	33.2	6.0	4.0	6.2	5.3	7.1	19.9
GOVERNMENT		6.9	2.4	4.1	6.8	4.4	5.2	5.0	10.5	9.6	1.2	.7	4.7	2.6	9.5	8.8
NONPROFIT		5.8	3.6	.4	.0	.9	1.0	.0	.0	.7	.6	1.2	2.8	1.8	5.0	2.3
OTHER & UNKNOWN		5.3	2.4	3.0	3.9	3.1	4.2	10.0	2.4	3.3	2.4	1.0	4.7	2.9	3.3	5.3
POSTDOCT STATUS UNKN	%	6.7	1.2	7.7	4.9	5.9	4.2	.0	4.8	5.3	6.6	5.2	6.4	6.0	5.9	6.4
DEFINITE POSTDOCTORAL STUDY		11.2	39.3	27.7	25.3	28.8	12.5	10.0	13.5	22.8	63.9	64.6	42.9	54.7	24.6	17.0
SEEKING POSTDOCTORAL STUDY		4.4	16.7	7.4	6.8	9.0	2.1	.0	7.3	7.4	14.5	12.0	10.7	11.8	9.2	8.2
DEFINITE EMPLOYMENT		53.6	28.6	44.3	42.7	41.0	58.3	70.0	54.0	49.6	10.2	13.0	24.0	17.5	40.5	40.9
SEEKING EMPLOYMENT		24.0	14.3	12.9	22.3	19.5	22.9	20.0	23.4	17.9	4.8	9.2	19.9	10.0	19.8	27.5
EMPLOYMENT ACTIVITY AFTER DOCTORATE PRIMARY ACTIVITY																
R & D	%	14.3	62.5	72.5	50.0	66.0	39.3	64.3	56.7	59.4	64.7	44.2	35.7	40.9	29.3	50.0
TEACHING		49.3	20.8	18.3	22.7	19.7	44.6	21.4	28.4	25.8	29.4	40.4	36.6	37.0	54.7	27.1
ADMINISTRATION		15.7	.0	1.7	2.3	1.6	3.6	.0	1.5	1.8	3.9	.0	2.7	2.2	10.9	1.4
PROF. SERVICES		13.9	4.2	3.3	11.4	5.3	7.1	.0	7.5	5.8	.0	7.7	14.3	11.0	4.4	8.6
OTHER		3.0	8.3	1.7	6.8	3.7	3.6	.0	1.5	3.1	.0	3.8	5.4	4.4	.7	10.0
ACTIVITY UNKNOWN		4.9	4.2	2.5	6.8	3.7	1.8	14.3	4.5	4.0	.0	3.8	5.4	4.4	2.9	2.9
SECONDARY ACTIVITY																
R & D		26.6	25.0	14.2	22.7	17.6	39.3	14.3	31.3	24.0	25.5	28.5	28.6	29.2	39.3	24.5
TEACHING		10.9	.0	1.7	13.6	4.3	19.6	7.1	10.4	8.3	.0	13.4	17.0	14.9	10.9	7.1
ADMINISTRATION		9.1	.0	7.5	.0	4.5	1.8	.0	9.0	4.9	.0	11.5	8.9	9.8	11.7	5.6
PROF. SERVICES		8.6	.0	6.7	11.4	6.9	8.9	.0	6.0	6.8	17.6	7.7	3.6	6.1	5.1	4.3
OTHER		3.0	.0	.8	4.5	1.6	.0	.0	.0	.9	.0	.0	1.8	1.1	.7	2.9
NO SECONDARY ACTIVITY		37.0	70.8	66.7	40.9	61.2	28.6	64.3	35.8	51.1	58.5	52.7	34.8	39.5	32.1	50.9
UNKNOWN		4.9	4.2	2.5	6.8	3.7	1.8	14.3	4.5	4.0	.0	3.8	5.4	4.4	2.9	2.9
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	%	6.5	6.3	4.2	2.3	4.3	1.8	21.4	6.0	4.9	5.9	9.6	9.8	9.4	5.6	1.4
MIDDLE ATLANTIC		16.3	33.3	31.7	15.9	28.2	19.6	21.4	14.9	23.7	17.6	17.3	10.7	13.3	19.3	7.1
EAST NO CENTRAL		13.5	12.5	15.3	2.3	10.6	16.1	7.1	1.5	9.3	11.8	9.6	19.2	13.3	12.4	10.0
WEST NO CENTRAL		9.5	.0	1.7	.0	1.1	16.1	.0	1.5	3.7	5.9	9.6	4.9	6.1	5.6	15.7
SOUTH ATLANTIC		16.3	12.5	19.2	6.8	15.4	25.2	7.1	19.4	17.2	11.8	13.5	17.3	15.5	19.1	18.6
EAST SO CENTRAL		4.7	.0	.8	.0	.5	1.8	.0	3.0	1.2	.0	3.8	2.7	2.8	3.6	4.3
WEST SO CENTRAL		5.6	4.2	7.5	31.8	12.8	8.9	.0	13.4	11.7	17.6	7.7	7.1	8.3	15.3	4.3
MOUNTAIN		4.3	.0	2.5	11.4	4.3	1.8	7.1	9.0	4.9	.0	1.9	7.1	5.0	4.4	5.6
PACIFIC & INSULAR		10.7	12.5	6.7	18.2	10.1	7.1	28.6	22.4	12.9	11.8	11.5	15.2	13.8	11.7	9.9
FOREIGN		5.1	12.5	8.3	4.5	8.0	3.6	.0	0.0	6.5	17.6	13.5	8.0	10.5	5.8	14.3
REGION UNKNOWN		7.0	4.2	4.2	6.8	6.8	.0	7.1	3.0	3.7	.0	1.9	2.7	2.2	5.8	7.1

1/Refer to explanatory note on page 26 and the description of doctoral fields inside back cover.

TABLE 2 (CONTINUED)

DOCTORATES: WOMEN

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI.; PUBLIC ADMIN.; INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED 2/
1542	1434	100	352	154	251	2291	4531	201	407	296	606	1310	487	5925	5922	4
27.7	45.5	13.2	39.1	21.8	34.5	36.7	24.2	29.0	52.8	53.7	39.2	42.4	32.7	48.8	45.0	16.7
85.5	91.6	66.0	87.5	85.1	84.5	88.7	85.3	94.5	92.4	78.4	65.3	87.1	87.7	90.1	89.1	
11.7	3.3	30.0	9.9	7.8	12.4	6.8	11.0	3.5	3.7	16.9	9.7	6.7	8.0	6.4	7.2	
2.8	5.1	4.0	2.6	7.1	3.2	4.6	3.7	2.0	3.9	4.7	5.0	4.2	4.3	3.5	3.8	
49.4	48.0	52.0	47.2	53.2	44.6	48.1	49.4	46.8	55.0	57.8	47.2	51.3	51.3	57.4	55.2	
46.7	45.7	45.0	50.3	37.7	50.2	46.3	45.9	48.8	39.8	36.8	46.2	43.0	44.1	38.2	40.0	
4.0	6.3	3.0	2.6	9.1	5.2	5.6	4.8	4.5	5.2	5.4	6.6	5.7	4.5	4.5	4.8	
30.2	31.9	30.3	33.9	34.1	33.2	32.4	31.1	34.4	35.3	34.9	33.9	34.3	34.7	38.3	36.5	
41.1	61.4	60.0	60.5	45.5	16.3	55.2	53.0	67.2	79.2	64.5	48.5	61.3	53.7	43.9	47.8	
59.7	81.7	73.0	85.5	85.1	91.6	83.2	72.4	90.5	90.9	87.2	87.8	88.9	95.0	96.1	95.9	
7.8	9.0	8.1	10.5	11.1	10.8	9.6	8.4	11.9	12.2	11.6	11.4	11.7	11.8	14.1	13.2	
6.0	6.5	6.3	8.0	7.2	6.6	6.8	6.3	8.7	8.6	8.3	8.0	8.4	6.7	7.0	7.5	
54.7	16.2	4.0	13.6	3.2	5.6	13.2	30.0	10.9	1.7	4.7	6.1	3.3	2.1	1.3	3.9	
30.9	8.3	1.0	8.2	1.9	2.0	6.9	16.0	7.5	.0	2.7	4.6	3.4	.8	.9	1.6	
17.9	3.1	2.0	2.8	.0	2.8	2.7	10.0	1.0	.5	.3	.3	.5	.4	1.2	.9	
1.8	3.7	1.0	.6	.0	.8	2.5	2.0	.0	.2	.0	.2	.1	.2	.3	.4	
4.2	1.1	.0	2.0	1.3	.0	1.1	2.1	2.9	1.0	1.7	1.0	1.3	.8	.9	1.0	
39.2	76.5	94.0	79.3	86.4	86.9	79.5	63.5	80.6	91.9	85.1	84.2	89.0	92.2	90.3	89.3	
21.9	29.6	64.0	53.7	53.2	58.2	59.5	30.8	57.2	77.1	69.3	65.0	68.1	65.7	63.5	64.9	
7.3	13.2	10.0	7.7	10.4	11.2	11.8	15.6	8.5	6.4	4.7	9.7	7.7	8.0	7.0	7.5	
4.2	10.8	9.0	6.5	11.7	7.2	9.7	7.2	4.5	2.0	1.4	1.3	1.9	6.8	8.5	6.8	
2.6	15.6	4.0	6.5	7.8	3.2	11.8	7.0	4.0	2.2	1.0	2.1	2.2	7.6	5.6	4.8	
3.2	7.3	7.0	4.8	3.2	7.2	6.6	5.0	6.5	4.2	5.8	5.9	6.1	4.1	5.7	5.7	
6.0	7.3	2.0	7.1	10.4	7.6	7.3	6.6	8.5	6.4	10.1	9.7	8.7	3.7	6.2	6.8	
43.9	10.4	2.0	7.4	1.3	3.6	8.2	22.6	6.5	.5	2.0	3.5	2.9	.8	1.9	1.9	
10.8	5.8	2.0	6.3	1.9	2.0	5.0	7.4	4.5	1.2	2.7	2.7	2.4	1.2	1.9	2.0	
25.2	50.3	83.0	52.3	66.2	60.6	54.2	45.1	49.8	61.9	50.0	53.1	54.5	69.4	64.5	62.2	
14.1	26.2	11.0	27.0	20.1	26.3	29.3	20.3	30.8	30.0	35.1	30.9	31.5	22.8	25.8	27.1	
37.4	15.3	27.7	27.2	17.6	17.8	18.4	29.0	10.0	2.8	5.4	6.5	5.6	13.6	4.8	5.9	
41.5	19.3	60.2	51.1	51.0	60.5	34.4	34.4	67.0	78.6	81.8	74.9	76.5	56.3	44.0	53.1	
5.2	6.8	.0	12.0	17.6	13.5	8.5	6.7	5.0	7.5	4.7	5.1	5.8	5.3	26.0	20.7	
8.2	52.8	4.8	5.8	4.9	5.6	32.8	23.4	2.0	4.4	1.4	3.7	3.3	13.1	14.4	11.6	
4.1	2.2	3.6	1.1	2.9	.0	1.9	2.6	9.0	5.2	2.7	5.3	5.2	2.4	2.6	3.2	
3.6	3.6	3.6	4.9	5.9	4.6	4.1	4.0	7.0	1.6	4.1	4.3	3.8	4.1	6.2	5.4	
30.4	23.2	49.4	39.7	36.3	41.4	30.7	29.5	28.0	32.9	41.9	35.5	34.9	41.4	18.8	24.9	
12.1	14.6	7.2	9.2	8.8	7.9	12.0	11.4	3.0	6.0	4.1	7.7	6.0	13.6	11.8	10.5	
9.8	9.8	4.8	6.0	12.7	12.5	9.5	5.8	12.0	9.3	7.4	4.5	6.4	9.5	13.2	9.2	
5.4	8.7	1.2	7.1	9.8	3.9	7.5	7.0	4.0	5.6	1.4	5.3	4.5	5.6	11.6	9.6	
1.3	2.8	4.8	2.2	2.0	5.3	3.1	2.4	5.0	4.4	1.4	5.6	4.4	2.4	5.1	5.3	
37.4	37.3	28.9	31.0	24.5	24.3	33.2	37.0	41.0	43.3	39.9	37.5	40.1	20.4	38.3	37.0	
3.6	3.6	3.6	4.9	5.9	4.6	4.1	4.0	7.0	1.6	4.1	4.3	3.8	4.1	6.2	5.4	
6.7	6.8	12.0	5.7	4.9	6.6	7.2	6.8	12.0	6.3	13.5	9.6	9.5	3.6	5.7	6.4	
12.9	24.8	16.9	17.9	11.8	17.1	21.3	20.0	13.0	16.7	16.2	19.8	17.4	19.7	12.7	14.1	
12.4	14.0	8.4	10.9	12.7	14.1	13.7	12.7	17.0	16.7	12.2	12.1	14.1	14.5	15.7	15.9	
7.0	7.2	6.0	7.6	7.8	6.5	6.9	9.4	8.0	6.0	5.4	5.6	6.0	6.8	9.7	8.5	
16.2	14.1	26.5	17.4	20.6	15.1	16.1	16.3	16.0	17.9	10.8	13.3	14.6	17.2	16.6	16.3	
3.4	5.6	2.4	1.6	2.0	5.3	5.3	5.0	4.0	5.6	6.8	5.1	4.9	6.5	9.0	8.7	
10.1	4.2	4.8	6.0	3.9	7.9	5.1	7.2	7.0	7.5	4.7	4.0	5.6	11.5	10.6	9.5	
5.4	4.9	4.8	6.0	3.9	5.9	5.1	5.1	5.0	5.6	3.4	2.8	3.8	6.2	4.7	4.6	
12.1	11.2	2.4	10.3	10.8	10.5	10.4	11.2	10.0	9.1	13.5	13.6	11.8	8.3	10.3	10.5	
9.5	1.9	14.5	8.2	7.8	4.6	4.5	5.8	1.0	2.4	6.1	7.4	4.9	6.8	4.5	4.7	
4.4	7.2	1.2	5.4	11.8	3.3	6.4	5.6	9.0	6.3	8.1	8.7	7.9	3.0	8.5	7.8	

2/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 3 SOURCES OF SUPPORT IN GRADUATE SCHOOL OF 1982 DOCTORATE RECIPIENTS BY SEX AND SUMMARY FIELD[1/]

SOURCES OF SUPPORT IN GRADUATE SCHOOL		DOCTORATE RECIPIENTS BY FIELD																	
		PHYSICAL SCIENCES[2/]		ENGINEERING		LIFE SCIENCES		SOCIAL SCIENCES		HUMANITIES		PROF. FIELDS		EDUCATION		TOTAL	
		MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN
NSF FELLOWSHIP	N	210/	28	94/	3	97/	45	71/	45	6/	5	4/	1	14/	8	496/	135
	V%	5.9/	5.1	4.0/	2.6	2.5/	3.1	1.9/	2.1	.3/	.4	.6/	.2	.6/	.2	2.5/	1.4
	H%	42.3/	20.7	19.0/	2.2	19.6/	33.3	14.3/	33.3	1.2/	3.7	.8/	.7	2.8/	5.9	100.0/	100.0
NSF TRAINEESHIP	N	31/	2	37/	1	37/	11	29/	19	2/	0	0/	1	3/	7	139/	41
	V%	.9/	.4	1.6/	.9	1.0/	.7	.8/	.9	.1/	.0	.0/	.2	.1/	.2	.7/	.4
	H%	22.3/	4.9	26.6/	2.4	26.6/	26.8	20.9/	46.3	1.4/	.0	.0/	2.4	2.2/	17.1	100.0/	100.0
NIH FELLOWSHIP[3/]	N	43/	6	11/	0	157/	80	94/	101	0/	1	8/	7	0/	4	313/	199
	V%	1.2/	1.1	.3/	.0	4.1/	5.4	2.6/	4.7	.0/	.1	.9/	1.5	.0/	.1	1.6/	2.1
	H%	13.7/	3.0	3.5/	.0	50.2/	40.2	30.0/	50.8	.0/	.5	2.6/	3.5	.0/	2.0	100.0/	100.0
NIH TRAINEESHIP[3/]	N	47/	8	26/	4	630/	333	185/	155	2/	0	10/	11	6/	15	906/	546
	V%	1.3/	1.5	1.1/	3.4	16.5/	24.0	5.1/	7.2	.1/	.0	1.1/	2.4	.2/	.5	4.6/	5.7
	H%	5.2/	1.5	2.9/	.7	69.5/	64.7	20.4/	28.4	.2/	.0	1.1/	2.0	.7/	2.7	100.0/	100.0
NDEA FELLOWSHIP	N	2/	3	3/	0	10/	5	47/	29	97/	60	3/	2	19/	11	181/	110
	V%	.1/	.5	.1/	.0	.3/	.3	1.3/	1.4	5.1/	4.2	.3/	.4	.5/	.3	.9/	1.2
	H%	1.1/	2.7	1.7/	.0	5.5/	4.5	26.0/	26.4	53.6/	54.5	1.7/	1.8	10.5/	10.0	100.0/	100.0
GRADUATE & PROF. OPPORTUNITIES PROGRAM	N	2/	4	5/	0	7/	8	4/	9	2/	2	4/	1	8/	19	33/	43
	V%	.1/	.7	.2/	.0	.2/	.5	.1/	.4	.1/	.1	.4/	.2	.2/	.6	.2/	.5
	H%	6.1/	9.3	15.2/	.0	21.2/	18.6	12.1/	20.9	6.1/	4.7	12.1/	2.3	24.2/	44.2	100.0/	100.0
NATIONAL DIRECT STUDENT LOANS	N	215/	26	127/	6	370/	142	766/	477	379/	263	100/	71	430/	451	2390/	1436
	V%	6.1/	4.7	5.4/	5.1	9.7/	9.7	21.0/	22.2	20.0/	18.5	10.8/	15.4	12.3/	13.5	12.2/	15.1
	H%	9.0/	1.8	5.3/	.4	15.5/	9.9	32.1/	33.2	15.9/	18.3	4.2/	4.9	18.0/	31.4	100.0/	100.0
OTHER HEW	N	23/	3	20/	2	97/	83	182/	184	15/	18	33/	49	90/	103	460/	442
	V%	.7/	.5	.9/	1.7	2.5/	5.7	5.0/	8.6	.8/	1.3	3.6/	10.7	2.6/	3.1	2.3/	4.7
	H%	5.0/	.7	4.3/	.5	21.1/	18.8	39.6/	41.6	3.3/	4.1	7.2/	11.1	19.6/	23.3	100.0/	100.0
GI BILL	N	142/	1	89/	0	187/	8	322/	11	178/	3	114/	5	387/	25	1421/	53
	V%	4.0/	.2	3.8/	.0	4.9/	.5	8.8/	.5	9.4/	.2	12.4/	1.1	11.1/	.8	7.2/	.6
	H%	10.0/	1.9	6.3/	.0	13.2/	15.1	22.7/	20.8	12.5/	5.7	8.0/	9.4	27.2/	47.2	100.0/	100.0
OTHER FEDERAL[4/] SUPPORT	N	236/	29	169/	7	223/	86	284/	164	89/	58	35/	30	96/	113	1134/	486
	V%	6.7/	5.3	7.2/	6.0	5.8/	5.7	7.8/	7.6	4.7/	4.1	3.8/	6.5	2.8/	3.4	5.8/	5.1
	H%	20.8/	6.0	14.9/	1.4	19.7/	17.3	25.0/	33.7	7.8/	11.9	3.1/	6.2	8.5/	23.3	100.0/	100.0
OTHER NATIONAL[5/] FELLOWSHIP	N	74/	13	44/	2	91/	47	147/	101	127/	130	23/	21	57/	69	563/	383
	V%	2.1/	2.4	1.9/	1.7	2.4/	3.2	4.0/	4.7	6.7/	9.2	2.5/	4.6	1.6/	2.1	2.9/	4.0
	H%	13.1/	3.4	7.8/	.5	16.2/	12.3	26.1/	26.4	22.6/	33.9	4.1/	5.5	10.1/	18.0	100.0/	100.0
UNIVERSITY FELLOWSHIP	N	750/	126	365/	30	598/	308	859/	453	665/	541	152/	78	256/	317	3651/	1853
	V%	21.2/	22.9	15.6/	25.6	15.6/	21.0	23.6/	21.1	35.1/	38.1	16.5/	17.0	7.3/	9.5	18.6/	19.5
	H%	20.5/	6.8	10.0/	1.6	16.4/	16.6	23.5/	24.4	18.2/	29.2	4.2/	4.2	7.0/	17.1	100.0/	100.0
TEACHING ASSISTANTSHIP	N	2541/	398	910/	53	1522/	614	1906/	1057	1271/	971	426/	178	732/	791	9317/	4063
	V%	71.9/	72.2	38.9/	45.3	39.8/	41.8	52.3/	49.2	67.0/	68.4	46.4/	38.7	21.0/	23.8	47.4/	42.8
	H%	27.3/	9.8	9.8/	1.3	16.3/	15.1	20.5/	26.0	13.6/	23.9	4.6/	4.4	7.9/	19.5	100.0/	100.0
RESEARCH ASSISTANTSHIP	N	2442/	362	1602/	82	2019/	664	1261/	720	238/	202	229/	119	531/	534	8329/	2683
	V%	69.1/	65.7	68.5/	70.1	52.8/	45.2	34.6/	33.5	12.6/	14.2	24.8/	25.9	15.2/	16.0	42.4/	28.3
	H%	29.3/	13.5	19.2/	3.1	24.2/	24.7	15.1/	26.8	2.9/	7.5	2.7/	4.4	6.4/	19.9	100.0/	100.0
EDUC. FUNDS OF INDUSTRY	N	174/	41	191/	8	113/	42	54/	28	27/	13	58/	24	117/	61	735/	219
	V%	4.9/	7.4	8.2/	6.8	3.0/	2.9	1.5/	1.3	1.4/	1.1	6.3/	5.2	3.4/	1.8	3.7/	2.3
	H%	23.7/	18.7	26.0/	3.7	15.4/	19.2	7.3/	12.8	3.7/	6.8	7.9/	11.0	15.9/	27.9	100.0/	100.0
OTHER INSTITUTION FUNDS	N	170/	40	109/	7	292/	136	317/	216	175/	151	85/	50	280/	291	1430/	892
	V%	4.8/	7.3	4.7/	6.0	7.6/	9.3	8.7/	10.1	9.2/	10.6	9.2/	10.9	8.0/	8.7	7.3/	9.4
	H%	11.9/	4.5	7.6/	.8	20.4/	15.2	22.2/	24.2	12.2/	16.9	5.9/	5.6	19.6/	32.6	100.0/	100.0
OWN EARNINGS	N	889/	133	734/	32	1282/	497	2225/	1332	1231/	892	569/	302	2755/	2534	9698/	5724
	V%	25.1/	24.1	31.4/	27.4	33.5/	33.8	61.1/	62.0	64.9/	62.9	61.7/	65.7	78.9/	76.1	49.3/	60.3
	H%	9.2/	2.3	7.6/	.6	13.2/	8.7	22.9/	23.3	12.7/	15.6	5.9/	5.3	28.4/	44.3	100.0/	100.0
SPOUSE'S EARNINGS	N	749/	106	390/	28	1058/	388	1141/	707	646/	529	306/	166	1169/	1310	5459/	3235
	V%	21.2/	19.2	16.7/	23.9	27.7/	26.4	31.3/	32.9	34.1/	37.3	33.0/	36.1	33.5/	39.4	27.8/	34.1
	H%	13.7/	3.3	7.1/	.9	19.4/	12.0	20.9/	21.9	11.8/	16.4	5.6/	5.1	21.4/	40.5	100.0/	100.0
FAMILY CONTRIBUTIONS	N	490/	64	442/	18	646/	257	812/	482	472/	357	141/	71	427/	449	3432/	1698
	V%	13.9/	11.6	18.9/	15.4	16.9/	17.5	22.3/	22.4	24.9/	25.2	15.3/	15.4	12.2/	13.5	17.5/	17.9
	H%	14.3/	3.8	12.9/	1.1	18.8/	15.1	23.7/	28.4	13.8/	21.0	4.1/	4.2	12.4/	26.4	100.0/	100.0
OTHER LOANS	N	225/	35	160/	10	379/	138	598/	375	277/	212	122/	60	483/	467	2247/	1297
	V%	6.4/	6.4	6.8/	8.5	9.9/	9.4	16.4/	17.5	16.6/	14.9	13.2/	13.0	13.8/	14.0	11.4/	13.7
	H%	10.0/	2.7	7.1/	.8	16.9/	10.6	26.6/	28.9	12.3/	16.3	5.4/	4.6	21.5/	36.0	100.0/	100.0
OTHER	N	188/	29	228/	9	336/	82	278/	118	141/	96	117/	37	255/	213	1545/	584
	V%	5.3/	5.3	9.8/	7.7	8.8/	5.6	7.6/	5.5	7.4/	6.8	12.7/	8.0	7.3/	6.4	7.9/	6.1
	H%	12.2/	5.0	14.8/	1.5	21.7/	14.0	18.0/	20.2	9.1/	16.4	7.6/	6.3	16.5/	36.5	100.0/	100.0
UNDUPLICATED TOTAL	N	3535/	551	2338/	117	3822/	1469	3642/	2148	1896/	1419	922/	460	3490/	3329	19866/	9496[6/]

1/Data are not comparable with data prior to 1977 because of a change in the survey question on source of support.
2/Includes mathematics and computer sciences.
3/The sources NIH Fellowship and NIH Traineeship refer to support provided under the National Research Awards Act of 1974.
4/Includes AEC/ERDA Fellowship and NASA Traineeship which were formerly shown separately.
5/Includes Woodrow Wilson Fellowship which was formerly shown separately.
6/The 1,888 Ph.D.s who did not report source of support are omitted from this table.

TABLE 4 STATE OF DOCTORAL INSTITUTION OF DOCTORATE RECIPIENTS BY SEX AND SUMMARY FIELD 1/

STATE OF DOCTORAL INSTITUTION	NUMBER OF DOCTORATE RECIPIENTS BY FIELD															
	PHYSICAL SCIENCES 2/		ENGINEERING		LIFE SCIENCES		SOCIAL SCIENCES		HUMANITIES		PROF. FIELDS		EDUCATION		TOTAL	
	MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN	
U.S. TOTAL	3714	574	2520	124	4023	1542	3959	2291	2050	1510	1004	487	3701	3525	20991	10057
ALABAMA	13	2	19	0	36	14	24	10	4	9	11	5	60	65	167	105
ALASKA	3	1	0	0	1	1	0	0	0	0	0	0	0	0	4	2
ARIZONA	73	6	35	2	54	16	47	24	28	14	17	2	56	69	310	133
ARKANSAS	10	2	8	0	23	4	8	7	2	4	12	4	19	27	82	48
CALIFORNIA	549	96	437	26	416	176	620	318	200	185	102	38	247	244	2574	1084
COLORADO	84	11	44	2	66	25	63	43	20	14	9	10	114	66	400	171
CONNECTICUT	57	10	17	0	58	31	68	33	59	56	4	1	37	31	301	162
DELAWARE	31	3	21	3	6	2	12	9	10	7	0	0	0	1	80	25
D. C.	42	6	27	3	42	32	81	67	57	34	27	6	44	67	320	215
FLORIDA	58	11	24	0	81	19	147	79	38	24	35	22	214	229	597	384
GEORGIA	60	9	29	1	75	22	57	50	36	20	24	5	71	84	353	191
HAWAII	14	2	5	0	27	9	20	8	10	7	0	0	5	4	81	30
IDAHO	8	0	4	0	19	3	3	0	1	3	0	0	11	3	46	9
ILLINOIS	231	31	170	8	188	76	243	114	158	71	58	34	221	153	1269	487
INDIANA	108	10	99	5	116	37	100	55	83	81	41	18	125	98	672	304
IOWA	74	11	61	3	111	19	50	26	46	31	18	5	71	55	432	150
KANSAS	28	8	23	1	52	17	56	32	23	15	6	6	51	60	240	139
KENTUCKY	8	1	7	0	34	13	19	13	19	11	24	5	16	8	127	51
LOUISIANA	29	6	11	0	53	17	14	11	24	12	28	3	31	39	190	88
MAINE	4	1	1	0	5	1	2	0	1	0	0	0	9	6	22	8
MARYLAND	68	19	32	3	86	47	60	59	37	37	7	13	48	70	338	248
MASSACHUSETTS	256	41	183	10	158	90	237	120	110	82	42	22	181	215	1169	580
MICHIGAN	113	15	110	0	199	62	189	96	101	58	41	17	189	158	943	407
MINNESOTA	48	7	36	0	105	26	63	32	25	22	8	6	41	42	326	135
MISSISSIPPI	13	1	9	0	47	9	35	11	9	2	11	2	74	48	198	73
MISSOURI	59	9	33	1	81	23	70	40	34	20	37	13	85	58	399	164
MONTANA	8	2	3	0	12	1	7	5	0	0	0	0	6	4	36	12
NEBRASKA	21	3	9	0	43	12	22	13	9	7	9	4	33	28	146	67
NEVADA	7	0	1	0	2	1	4	2	1	0	0	0	6	10	21	13
NEW HAMPSHIRE	16	3	3	0	14	9	8	5	5	1	0	0	0	0	46	18
NEW JERSEY	113	13	63	4	55	36	51	32	66	48	12	13	66	59	426	205
NEW MEXICO	16	3	12	0	13	10	10	10	10	10	0	0	20	27	81	60
NEW YORK	384	59	234	8	355	189	495	348	261	206	87	54	228	268	2046	1132
NORTH CAROLINA	81	13	44	7	166	60	82	42	37	42	17	11	67	62	494	237
NORTH DAKOTA	9	0	0	0	15	3	2	1	2	1	0	0	8	6	36	11
OHIO	138	21	110	6	164	54	156	109	76	58	51	30	194	166	890	444
OKLAHOMA	24	5	31	5	55	13	35	16	17	8	14	14	57	56	233	118
OREGON	42	3	20	0	71	13	44	33	17	13	21	2	65	56	281	120
PENNSYLVANIA	177	35	170	5	174	81	212	130	99	96	54	35	257	227	1145	610
RHODE ISLAND	53	8	24	0	20	8	21	13	23	33	0	0	0	0	141	62
SOUTH CAROLINA	23	8	11	1	35	6	24	14	10	3	13	3	25	32	141	67
SOUTH DAKOTA	1	0	1	0	5	0	7	3	0	0	0	0	10	5	24	8
TENNESSEE	20	0	23	0	62	23	84	39	33	20	11	16	114	116	367	214
TEXAS	211	39	126	4	211	81	136	79	104	61	96	36	202	242	1089	542
UTAH	38	3	32	5	52	18	46	26	19	7	6	7	92	48	285	114
VERMONT	5	0	1	1	7	2	4	1	1	1	0	0	0	0	18	5
VIRGINIA	53	13	55	6	75	30	55	28	30	9	18	5	76	69	362	160
WASHINGTON	85	11	29	1	98	34	67	39	35	21	12	9	42	50	369	165
WEST VIRGINIA	11	0	7	1	23	9	12	4	3	5	0	0	29	27	85	46
WISCONSIN	116	9	65	2	148	56	85	40	56	39	21	11	74	58	565	215
WYOMING	18	1	1	0	9	2	2	2	0	0	0	0	10	9	40	14
PUERTO RICO	3	3	0	0	0	0	0	0	1	2	0	0	0	0	4	5

1/Refer to explanatory note on page 27.
2/Includes mathematics and computer sciences.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 5 STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY RACIAL/ETHNIC GROUP AND U.S. CITIZENSHIP STATUS, 1992[1/]

		TOTAL				AMERICAN INDIAN	ASIAN				BLACK			
		U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL
TOTAL NUMBER		24309	1224	4189	31048[2/]	77	430	550	1827	2898[2/]	1037	96	368	1511[2/]
MALE	%	63.9	74.6	86.1	67.6	57.1	62.4	80.4	85.7	81.2	46.4	84.4	91.0	59.8
FEMALE		36.1	25.4	13.9	32.4	42.9	37.6	19.6	14.3	18.8	53.6	15.6	9.0	40.2
DOCTORAL FIELD														
PHYSICAL SCIENCES[4/]	%	12.8	16.3	20.0	13.8	6.5	18.0	21.6	24.7	22.9	2.9	6.3	8.2	4.4
ENGINEERING		4.8	24.2	24.5	8.5	3.9	16.0	31.6	30.9	28.8	.9	11.5	9.0	3.6
LIFE SCIENCES		18.4	14.7	17.7	17.9	15.6	24.7	18.2	16.0	17.8	6.0	10.4	25.0	10.9
SOCIAL SCIENCES		21.0	16.6	14.0	20.1	26.0	15.8	10.7	12.1	12.6	21.0	27.1	17.7	20.5
ARTS & HUMANITIES		12.4	11.3	5.4	11.5	7.8	6.2	4.9	3.5	4.2	9.3	7.3	6.8	8.5
EDUCATION		25.7	11.8	13.6	23.3	37.7	15.3	7.8	9.3	9.8	55.2	35.4	29.1	47.6
PROFESSIONS & OTHER		4.8	5.1	4.7	4.9	2.6	4.0	5.1	3.4	3.8	4.8	2.1	4.3	4.5
MEDIAN AGE AT DOCTORATE		32.6	32.5	32.4	32.5	34.5	32.5	31.9	31.8	31.9	37.5	35.5	34.3	36.1
MEDIAN TIME LAPSE BA-PHD														
TOTAL TIME	YRS	9.7	9.3	8.9	9.6	11.0	9.6	9.4	9.1	9.2	13.0	8.9	9.0	11.2
REGISTERED TIME		6.6	6.4	5.8	6.5	6.4	6.8	6.3	6.0	6.1	7.4	6.2	5.1	6.6
GRADUATE SCHOOL SUPPORT														
FEDERAL FELLOW/TRAINEE	%	19.6	9.0	7.1	16.7	26.0	24.4	10.2	7.6	10.6	17.9	5.2	6.8	14.3
GI BILL		6.1	.1	.0	4.7	6.5	1.3	.0	.1	.2	5.8	.0	.0	4.0
OTHER FELLOWSHIP		21.0	21.2	18.6	19.8	19.5	19.8	19.1	18.2	18.2	23.7	21.9	22.3	23.2
TEACHING ASSISTANTSHIP		45.8	51.3	37.9	43.1	28.6	40.9	53.3	42.7	43.5	25.3	25.0	29.1	26.2
RESEARCH ASSISTANTSHIP		34.9	49.4	45.5	35.5	22.1	39.1	60.9	56.5	53.6	14.4	26.0	28.8	18.7
EDUC./INST. FUNDS		11.0	8.2	10.1	10.3	7.8	12.0	7.3	9.7	9.4	11.5	11.5	13.9	12.1
OWN/SPOUSE EARNINGS		68.5	52.0	28.9	59.8	71.4	55.1	42.7	22.7	31.1	70.7	62.5	37.2	61.9
FAMILY CONTRIBUTIONS		16.3	20.8	21.2	16.5	18.2	16.7	20.7	22.9	21.0	10.6	15.6	20.9	13.5
NATL DIRECT STDNT LOAN		15.0	9.7	.8	12.3	18.2	14.0	7.5	.5	3.9	16.2	22.9	1.4	13.0
OTHER LOANS		13.2	10.5	4.7	11.4	18.2	10.4	6.7	2.8	4.7	18.2	17.7	8.7	15.9
OTHER		3.9	6.1	26.1	6.9	3.9	2.2	2.5	15.0	10.3	4.5	14.6	38.9	13.6
UNKNOWN		2.0	1.4	3.5	6.1	1.3	1.6	1.1	2.6	4.1	2.1	1.0	2.7	2.2
POSTDOCTORAL STUDY PLANS	%	18.6	19.9	23.8	18.6	19.5	27.8	22.5	27.0	25.6	6.8	12.5	14.1	8.9
PLANNED EMPLOYMENT AFTER DOCTORATE		78.8	76.1	71.5	74.6	79.2	68.2	73.1	68.6	68.3	91.5	86.5	83.2	89.0
EDUC. INSTITUTION		45.8	35.7	40.1	42.8	48.1	29.3	24.5	37.0	32.7	61.5	51.0	51.9	58.2
INDUSTRY/BUSINESS		15.6	30.1	14.6	15.4	11.7	23.1	40.9	19.8	24.2	6.8	18.8	5.2	7.3
GOVERNMENT		8.1	3.8	10.9	8.0	10.4	8.2	3.3	7.9	7.0	12.7	10.4	16.8	13.6
NON-PROFIT		5.6	3.1	2.5	4.9	3.9	2.9	2.2	1.9	2.0	5.0	1.0	4.1	4.5
OTHER & UNKNOWN		3.6	3.3	3.4	3.4	5.2	4.7	2.2	2.1	2.4	5.4	5.2	5.2	5.4
POSTDOCT STATUS UNKNOWN	%	2.7	4.1	4.7	6.8	1.3	4.0	4.4	4.3	6.0	1.7	1.0	2.7	2.1
DEFINITE POSTDOCT STUDY	%	14.2	12.3	14.2	13.6	16.9	19.6	14.7	16.6	16.3	3.7	7.3	6.3	4.5
SEEKING POSTDOCT STUDY		4.3	7.6	9.6	5.0	2.6	8.2	7.8	10.5	9.4	3.1	5.2	7.9	4.4
DEFINITE EMPLOYMENT		58.6	48.9	50.5	54.9	45.5	44.9	49.5	49.8	48.2	68.2	40.6	48.4	61.5
SEEKING EMPLOYMENT		20.1	27.2	21.0	19.7	33.8	23.3	23.6	18.9	20.1	23.3	45.8	34.8	27.5
EMPLOYMENT LOCATION AFTER DOCTORATE														
U.S.	%[5/]	92.8	84.8	28.7	84.5	88.6	88.6	86.8	41.4	57.4	88.3	69.2	11.2	72.5
FOREIGN		1.5	9.7	64.9	9.6	2.9	2.0	7.0	51.8	35.5	.4	23.1	81.5	17.0
UNKNOWN		5.7	5.5	6.5	5.9	8.6	9.4	6.3	6.8	7.2	11.3	7.7	7.3	10.5

1/Data not comparable with data for earlier years because of changes in the survey question on racial/ethnic group.
See discussion on page 27.
2/Includes individuals who did not report their citizenship at time of doctorate.
3/Includes those who provided no usable response to the item on racial/ethnic group.
4/Includes mathematics and computer sciences.
5/The base for this percentage is the number of doctorates in the column caption group who have found definite employment.

TABLE 5 (CONTINUED)

WHITE				PUERTO RICAN	MEXICAN-AMERICAN				OTHER HISPANIC				OTHER & UNKNOWN		
U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	U.S.	NON-U.S.	TOTAL 2/ 3/
21600	462	1453	23574	140	182	9	16	207	214	68	274	566	611	290	2075
64.6	66.9	85.1	65.9	57.9	67.0	88.9	100.0	70.5	64.5	63.2	83.6	73.7	70.0	87.6	73.1
35.4	33.1	14.9	34.1	42.1	33.0	11.1	.0	29.5	35.5	36.8	16.4	26.3	30.0	12.4	26.9
13.3	13.9	18.8	13.6	6.4	1.6	33.3	18.8	4.3	10.7	2.9	17.9	13.4	15.5	12.8	12.0
4.7	18.4	22.4	6.1	7.9	2.2	.0	18.8	3.4	5.3	19.1	17.9	12.7	7.4	22.4	11.0
18.9	12.8	15.6	18.6	8.6	10.4	.0	50.0	13.0	14.0	10.3	30.7	21.6	22.6	14.8	15.7
21.2	21.0	14.5	20.7	22.1	26.4	11.1	.0	23.7	18.7	22.1	12.8	16.3	18.7	21.0	23.8
12.5	16.2	7.2	12.2	19.3	12.6	33.3	.0	12.6	27.1	30.9	5.5	16.6	13.7	7.9	13.3
24.5	11.5	15.0	23.7	31.4	42.3	11.1	6.3	38.2	25.2	14.7	11.7	17.1	18.5	15.5	18.7
4.9	6.3	6.5	5.1	4.3	4.4	11.1	6.3	4.8	.9	.0	3.6	2.3	3.6	5.5	5.4
32.3	32.8	32.2	32.3	34.9	34.4	37.0	32.8	34.3	34.1	35.5	33.7	34.0	31.7	33.4	32.9
9.6	8.9	8.8	9.5	12.5	10.5	12.5	8.4	10.4	10.6	10.9	9.5	10.3	8.8	9.6	9.3
6.6	6.4	5.7	6.5	6.6	7.5	5.3	5.4	7.2	7.1	6.5	5.3	6.1	6.5	6.1	6.4
19.6	8.9	6.8	18.6	22.1	29.1	.0	6.3	26.1	22.9	10.3	8.0	13.8	13.1	4.1	4.6
6.3	.2	.0	5.8	2.1	7.7	.0	.0	6.8	6.1	.0	.0	2.3	1.8	.0	.5
20.9	22.7	19.5	20.8	28.6	33.0	22.2	12.5	30.9	23.4	26.5	18.2	20.8	14.2	13.1	6.1
47.6	55.2	39.5	47.3	25.0	33.5	55.6	12.5	32.9	43.0	50.0	24.8	34.3	30.0	25.5	12.6
36.4	43.7	41.8	36.8	21.4	21.4	33.3	18.8	21.7	25.7	33.8	33.6	30.0	24.1	27.2	11.0
11.0	8.9	10.3	10.9	22.9	11.5	.0	6.3	10.6	9.3	10.3	10.2	9.7	7.2	6.9	3.1
69.6	61.3	36.7	67.3	60.0	67.6	44.4	12.5	62.3	71.0	55.9	28.1	47.2	37.6	22.8	14.6
16.9	23.2	22.6	17.4	16.4	11.0	.0	12.5	10.6	13.6	16.2	11.3	12.5	8.7	12.8	4.4
15.1	9.1	1.0	14.1	25.7	18.7	11.1	.0	16.9	19.2	10.3	1.8	9.4	7.9	2.4	2.8
13.1	12.8	5.5	12.6	15.7	15.9	22.2	18.8	16.4	14.0	16.2	8.4	11.3	7.7	3.4	2.8
4.0	8.2	29.7	5.6	5.7	5.5	.0	68.8	10.1	3.7	8.8	48.2	25.8	2.1	36.2	5.8
1.0	1.3	2.4	1.1	.7	.5	11.1	.0	1.0	.5	1.5	4.4	4.2	40.3	15.5	69.9
19.2	19.7	24.8	19.5	11.4	16.5	11.1	12.5	15.9	13.1	14.7	19.3	16.1	15.2	13.8	6.6
79.1	75.8	71.2	78.5	86.4	81.9	77.8	87.5	82.1	86.4	83.8	76.6	80.0	47.1	72.1	25.3
45.8	43.1	40.5	45.4	60.7	50.0	44.4	37.5	48.8	51.4	54.4	39.4	45.1	25.2	42.8	14.1
16.1	21.2	12.5	16.0	7.1	10.4	33.3	25.0	12.6	13.6	16.2	12.8	13.3	10.6	8.6	4.5
7.9	2.8	11.8	8.1	9.3	12.1	.0	18.8	12.1	10.3	5.9	15.3	12.2	5.1	12.4	3.6
5.8	4.3	2.9	5.6	5.0	6.6	.0	6.3	6.3	6.5	7.4	2.9	4.8	2.6	1.4	1.1
3.5	4.3	3.5	3.5	4.3	2.7	.0	.0	2.4	4.7	.0	6.2	4.8	3.6	6.9	2.1
1.7	4.5	4.1	2.0	2.1	1.6	11.1	.0	1.9	.5	1.5	4.0	3.9	37.6	14.1	68.1
14.8	12.3	14.8	14.8	7.9	12.6	11.1	6.3	12.1	10.3	4.4	10.9	9.7	10.0	7.6	4.0
4.3	7.4	10.0	4.7	3.6	3.8	.0	6.3	3.9	2.8	10.3	8.4	6.4	5.2	6.2	2.6
59.2	47.6	50.2	58.4	63.6	58.8	44.4	56.3	58.0	61.7	55.9	56.6	57.4	30.9	55.2	17.9
19.9	28.1	21.0	20.1	22.9	23.1	33.3	31.3	24.2	24.8	27.9	20.1	22.6	16.2	16.9	7.4
93.3	85.9	24.3	89.5	88.8	90.7	75.0	.0	83.3	89.4	81.6	11.0	51.1	89.4	23.1	59.6
1.5	10.5	69.1	5.2	.0	2.8	.0	100.0	10.0	2.3	13.2	87.1	44.0	2.1	68.8	31.0
5.2	3.6	6.6	5.3	11.2	6.5	25.0	.0	6.7	8.3	5.3	1.9	4.9	8.5	8.1	9.4

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

SURVEY OF EARNED DOCTORATES, 1981-82

Form Approved
FEDAC No. R231
Approval Expires 6/82

This form is to be returned to the GRADUATE DEAN, for forwarding to ..... Commission on Human Resources
National Research Council
2101 Constitution Avenue, Washington, D. C. 20418

Please print or type.

1. Name in full: ..... (9-30)
(Last Name) (First Name) (Middle Name)

Cross Reference: Maiden name or former name legally changed .....

2. Permanent address through which you could always be reached: (Care of, if applicable) .....

.....
(Number) (Street) (City)

.....
(State) (Zip Code) (Or Country if not U.S.)

3. U.S. Social Security Number: ___ ___ ___ - ___ ___ - ___ ___ ___ ___ (33-41)

4. Date of birth: ..... Place of birth: .....
(10-14) (Month) (Day) (Year) (15-16) (State) (Or Country if not U.S.)

5. Sex: 1 ☐ Male 2 ☐ Female (17)

6. Marital status: 1 ☐ Married 2 ☐ Not married (including widowed, divorced) (18)

7. Citizenship: 0 ☐ U.S. native 2 ☐ Non U.S., Immigrant (Permanent Resident)
1 ☐ U.S. naturalized 3 ☐ Non-U.S., Non-Immigrant (Temporary Resident) (19)
If Non-U.S., indicate country of present citizenship ..... (20-21)

8. What is your racial background? (Check only one) 0 ☐ American Indian or Alaskan Native 2 ☐ Black
1 ☐ Asian or Pacific Islander 3 ☐ White (22)

8a. Is your ethnic heritage Hispanic? ☐ Yes ☐ No (23)

8b. If yes, is it: 0 ☐ Mexican American 1 ☐ Puerto Rican 2 ☐ Other Hispanic (24)

9. Number of dependents: Do not include yourself. (Dependent = someone receiving at least one half of his or her support from you) ..... (25)

EDUCATION

10. High school last attended: ..... (26-27)
(School Name) (City) (State)

Year of graduation from high school: ..... (28-29)

11. List in the table below all collegiate and graduate institutions you have attended including 2-year colleges. List chronologically, and include your doctoral institution as the last entry.

Institution Name	Location	Years Attended		Major Field		Degree (if any)		
		From	To	Use Specialties List Name	Number	Title of Degree	Granted, Mo.	Yr.

12. Enter below the title of your doctoral dissertation and the most appropriate classification number and field. If a project report or a musical or literary composition (not a dissertation) is a degree requirement, please check box. ☐ (12)

Title .....
.....
.....

Classify using Specialties List
Number Name of field
....

13. Name the department (or interdisciplinary committee, center, institute, etc.) and school or college of the university which supervised your doctoral program: .....
(Department/Institute/Committee/Program) (School)

14. Name of your adviser for dissertation, project report or music/literary composition: .....
(Last Name) (First Name) (Middle Initial)

continued on next page

15. Please enter a "1" beside your primary source of support during graduate study. Enter a "2" beside your secondary source of support during graduate study. Check (✓) all other sources from which support was received.

a — NSF Fellowship
b — NSF Traineeship
c — NIH Fellowship
d — NIH Traineeship
e — NDEA Fellowship
f — Title IX Graduate & Professional Opportunities Pgm. Fellowship
g — Other HEW
h — AEC/ERDA/DOE Fellowship
j — GI Bill
k — Other Federal support (specify) .....
l — Woodrow Wilson Fellowship
m — Other U.S. national (non-federal) fellowship
..... (specify)
n — University Fellowship
o — Teaching Assistantship
p — Research Assistantship
q — Educational fund of industrial or business firm
r — Other institutional funds
..... (specify)
s — Own earnings
t — Spouse's earnings
u — Family contributions
v — Loans (NDSL direct)
w — Other loans
x — Other
..... (specify) (26-49)

16. Please check the space which most fully describes your status during the year immediately preceding the doctorate.

0 ☐ Held fellowship
1 ☐ Held assistantship
2 ☐ Held own research grant
3 ☐ Not employed
4 ☐ Part-time employed

Full-time Employed in: (Other than 0, 1, 2)

5 ☐ College or university, faculty
6 ☐ College or university, non-faculty
7 ☐ Elem. or sec. school, teaching
8 ☐ Elem. or sec. school, non-teaching
9 ☐ Industry or business
(11) ☐ Other (specify) .....

(12) ☐ Any other (specify) ..... (50)

POSTGRADUATION PLANS

17. How well defined are your postgraduation plans?

0 ☐ Am returning to, or continuing in, predoctoral employment
1 ☐ Have signed contract or made definite commitment
2 ☐ Am negotiating with one or more specific organizations
3 ☐ Am seeking appointment but have no specific prospects
4 ☐ Other (specify) ..... (51)

18. What are your immediate postgraduation plans?

0 ☐ Postdoctoral fellowship
1 ☐ Postdoctoral research associateship
2 ☐ Traineeship
3 ☐ Other study (specify) .....
} Go to Item "19"

4 ☐ Employment (other than 0, 1, 2, 3)
5 ☐ Military service
6 ☐ Other (specify) ..... (52)
} Go to Item "20"

19. If you plan to be on a postdoctoral fellowship, associateship, traineeship or other study

a. What was the most important reason for taking a postdoctoral appointment? (Check only one.)

0 ☐ To obtain additional research experience in my doctoral field
1 ☐ To work with a particular scientist or research group
2 ☐ To switch into a different field of research
3 ☐ Could not obtain the desired type of employment position
4 ☐ Other reason (specify) ..... (53)

b. What will be the field of your postdoctoral study?
Please enter number from Specialties List ..... (54-56)

c. What will be the primary source of research support?

0 ☐ U.S. Government
1 ☐ College or university
2 ☐ Private foundation
3 ☐ Nonprofit, other than private foundation
4 ☐ Other (specify) .....
6 ☐ Unknown (57)

Go to Item "21"

20. If you plan to be employed, enter military service, or other —

a. What will be the type of employer?

0 ☐ 4-year college or university other than medical school
1 ☐ Medical school
2 ☐ Jr. or community college
3 ☐ Elem. or sec. school
4 ☐ Foreign government
5 ☐ U.S. Federal government
6 ☐ U.S. state government
7 ☐ U.S. local government
8 ☐ Nonprofit organization
9 ☐ Industry or business
(11) ☐ Self-employed
(12) ☐ Other (specify) ..... (58)

b. Indicate what your *primary* work activity will be with "1" in appropriate box; *secondary* work activity (if any) with "2" in appropriate box.

0 ☐ Research and development
1 ☐ Teaching
2 ☐ Administration
3 ☐ Professional services to individuals
5 ☐ Other (specify) ..... (59-60)

c. In what field will you be working?
Please enter number from Specialties List ..... (61-63)

d. Did you consider taking a postdoctoral appointment?
Yes — No — (64)

If yes, why did you decide against the postdoctoral?

0 ☐ No postdoctoral appointment available
1 ☐ Felt that I would derive little or no benefit from a postdoctoral appointment
2 ☐ Had more attractive employment opportunity
3 ☐ Other (specify) ..... (65)

Go to Item "21"

21. What is the name and address of the organization with which you will be associated?

..... (Name of Organization)

..... (Street) ..... (City, State) (Or Country if not U.S.) (66-71)

BACKGROUND INFORMATION

22. Please indicate, by circling the highest grade attained, the education of

		Elementary school							High school				College				Graduate			Graduate	
your father:	none	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	MA, MD	PhD	Postdoctoral	(72)
your mother	none	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	MA, MD	PhD	Postdoctoral	(73)
	0	1			2			3		4			5	6			7	8	9	(11)	

Signature ..... Date ..... (74-78)

If you would like to receive a summary of the results of this survey, please check box. ☐ (79)

SPECIALTIES LIST

MATHEMATICS

000 Algebra
010 Analysis & Functional Analysis
020 Geometry
030 Logic
040 Number Theory
050 Probability & Math. Statistics (see also 544, 670, 725, 727, 920)
060 Topology
080 Computing Theory & Practice
082 Operations Research (see also 478)
085 Applied Mathematics
098 Mathematics, General
099 Mathematics, Other*

COMPUTER SCIENCES

079 Computer Sciences* (see also 437)

ASTRONOMY

101 Astonomy
102 Astrophysics

PHYSICS

110 Atomic & Molecular
132 Acoustics
134 Fluids
135 Plasma
136 Optics
140 Elementary Particles
150 Nuclear Structure
160 Solid State
198 Physics, General
199 Physics, Other*

CHEMISTRY

200 Analytical
210 Inorganic
220 Organic
230 Nuclear
240 Physical
250 Theoretical
270 Pharmaceutical
275 Polymer
298 Chemistry, General
299 Chemistry, Other*

EARTH, ENVIRONMENTAL AND MARINE SCIENCES

301 Mineralogy, Petrology
305 Geochemistry
310 Stratigraphy, Sedimentation
320 Paleontology
330 Structural Geology
341 Geophysics (Solid Earth)
350 Geomorph. & Glacial Geology
391 Applied Geol., Geol. Engr. & Econ. Geol.
360 Hydrology & Water Resources
370 Oceanography
397 Marine Sciences, Other*
381 Atmospheric Physics and Chemistry
382 Atmospheric Dynamics
383 Atmospheric Sciences, Other*
388 Environmental Sciences, General (see also 480, 528)
389 Environmental Sciences, Other*
398 Earth Sciences, General
399 Earth Sciences, Other*

ENGINEERING

400 Aeronautical & Astronautical
410 Agricultural
415 Biomedical
420 Civil
430 Chemical
435 Ceramic
437 Computer
440 Electrical
445 Electronics
450 Industrial
455 Nuclear
460 Engineering Mechanics
465 Engineering Physics
470 Mechanical
475 Metallurgy & Phys. Met. Engr.
476 Systems Design & Systems Science
478 Operations Research (see also 082)
479 Fuel Tech. & Petrol. Engr.
480 Sanitary & Environmental
486 Mining
497 Materials Science
498 Engineering, General
499 Engineering, Other*

AGRICULTURAL SCIENCES

500 Agronomy
501 Agricultural Economics
502 Animal Husbandry
503 Food Science & Technology
504 Fish & Wildlife
505 Forestry
506 Horticulture
507 Soils & Soil Science
510 Animal Science & Animal Nutrition
511 Phytopathology
518 Agriculture, General
519 Agriculture, Other*

MEDICAL SCIENCES

522 Public Health & Epidemiology
523 Veterinary Medicine
526 Nursing
527 Parasitology
528 Environmental Health
534 Pathology
536 Pharmacology
537 Pharmacy
538 Medical Sciences, General
539 Medical Sciences, Other*

BIOLOGICAL SCIENCES

540 Biochemistry
542 Biophysics
544 Biometrics & Biostatistics (see also 050, 670, 725, 727, 920)
545 Anatomy
546 Cytology
547 Embryology
548 Immunology
550 Botany
560 Ecology
564 Microbiology & Bacteriology
566 Physiology, Animal
567 Physiology, Plant
569 Zoology
570 Genetics
571 Entomology
572 Molecular Biology
576 Nutrition and/or Dietetics
589 Neurosciences
598 Biological Sciences, General
599 Biological Sciences, Other*

PSYCHOLOGY

600 Clinical
610 Counseling & Guidance
620 Developmental & Gerontological
630 Educational
635 School Psychology
641 Experimental
642 Comparative
643 Physiological
650 Industrial & Personnel
660 Personality
670 Psychometrics (see also 050, 544, 725, 727, 920)
680 Social
698 Psychology, General
699 Psychology, Other*

SOCIAL SCIENCES

700 Anthropology
708 Communications*
710 Sociology
720 Economics (see also 501)
725 Econometrics (see also 050, 544, 670, 727, 920)
727 Statistics (see also 050, 544, 670, 725, 920)
740 Geography
745 Area Studies*
751 Political Science
752 Public Administration
755 International Relations
760 Criminology & Criminal Justice
770 Urban & Reg. Planning
798 Social Sciences, General
799 Social Sciences, Other*

HUMANITIES

802 History & Criticism of Art
804 History, American
805 History, European
806 History, Other*
807 History & Philosophy of Science
808 American Studies
809 Theatre and Theatre Criticism
830 Music
831 Speech as a Dramatic Art (see also 885)
832 Archeology
833 Religion (see also 881)
834 Philosophy
835 Linguistics
836 Comparative Literature
878 Humanities, General
879 Humanities, Other*

LANGUAGES & LITERATURE

811 American
812 English
821 German
822 Russian
823 French
824 Spanish & Portuguese
826 Italian
827 Classical*
829 Other Languages*

EDUCATION

900 Foundations: Social & Philosoph.
910 Educational Psychology
908 Elementary Educ., General
909 Secondary Educ., General
918 Higher Education
919 Adult Educ. & Extension Educ.
920 Educ. Meas. & Stat.
929 Curriculum & Instruction
930 Educ. Admin. & Superv.
940 Guid., Couns., & Student Pers.
950 Special Education (Gifted, Handicapped, etc.)
960 Audio-Visual Media

TEACHING FIELDS

970 Agriculture Educ.
972 Art Educ.
974 Business Educ.
975 Early Childhood Educ.
976 English Educ.
978 Foreign Languages Educ.
980 Home Economics Educ.
982 Industrial Arts Educ.
984 Mathematics Educ.
986 Music Educ.
987 Nursing Educ.
988 Phys. Ed., Health, & Recreation
989 Reading Education
990 Science Educ.
992 Social Science Educ.
993 Speech Education
994 Vocational Educ.
996 Other Teaching Fields*
998 Education, General
999 Education, Other*

OTHER PROFESSIONAL FIELDS

881 Theology (see also 833)
882 Business Administration
883 Home Economics
884 Journalism
885 Speech & Hearing Sciences (see also 831)
886 Law & Jurisprudence
887 Social Work
891 Library & Archival Science
897 Professional Field, Other*

899 OTHER FIELDS*

* Identify the specific field in the space provided on the questionnaire in items 11 and 12.

CODE NUMBERS FOR FIELDS DISPLAYED IN TABLE 2

Physics & Astronomy (101-199)
Chemistry (200-299)
Earth, Environmental, and Marine Sciences (301-399)

Physical Sciences Subtotal (101-399)
Mathematics (000-060, 080-099)
Computer Sciences (079)
Engineering (400-499)

EMP Total (000-499)

Biochemistry (540)
Basic Medical Sciences (542, 545-548, 564-566, 572)
Other Biosciences (544, 550-562, 567-571, 576-599)

Biosciences Subtotal (540-599)
Medical Sciences (520-539)
Agricultural Sciences (500-519)

Life Sciences Total (500-599)

Psychology (600-699)
Economics and Econometrics (720, 725)
Anthropology and Sociology (700, 710)
Political Science, Public Administration, International Relations (751-755)
Other Social Sciences (708, 727-745, 760-799)

Social Sciences Total (600-799)

Total Sciences (000-799)

History (804-807)
English and American Language and Literature (811-812)
Foreign Languages and Literature (821-829)
Other Humanities (802, 808-809, 830-879)

Humanities Total (802-879)

Professional Fields (881-897)

Education (900-999)

Total Non-Sciences (802-897, 900-999)

Other or Unspecified (899)

TITLES OF DEGREES INCLUDED IN THE SURVEY OF EARNED DOCTORATES

DAS	Doctor of Applied Science
DArch	Doctor of Architecture
DA	Doctor of Arts
DBA	Doctor of Business Administration
JCD	Doctor of Canon Law
DCJ	Doctor of Criminal Justice
DCrim	Doctor of Criminology
EdD	Doctor of Education
DEng	Doctor of Engineering
DESc	Doctor of Engineering Science
ScDE	Doctor of Engineering Science
DEnv	Doctor of Environment
DED	Doctor of Environmental Design
DFA	Doctor of Fine Arts
DF	Doctor of Forestry
DGS	Doctor of Geological Science
DHS	Doctor of Health and Safety
DHL	Doctor of Hebrew Literature
DHS	Doctor of Hebrew Studies
DIT	Doctor of Industrial Technology
SJD	Doctor of Juridical Science
JSD	Doctor of Juristic Science
DLS	Doctor of Library Science
DMSc	Doctor of Medical Science
DMin or DM	Doctor of Ministry
DM	Doctor of Music
DMA	Doctor of Musical Arts
DME	Doctor of Music Education
DML	Doctor of Modern Language
DNSc	Doctor of Nursing Science
PhD	Doctor of Philosophy
DPE	Doctor of Physical Education
DPS	Doctor of Professional Studies
DPA	Doctor of Public Administration
DPH	Doctor of Public Health
DRec or DR	Doctor of Recreation
DRE	Doctor of Religious Education
DSM	Doctor of Sacred Music
STD	Doctor of Sacred Theology
DSc	Doctor of Science
DScH	Doctor of Science and Hygiene
LScD	Doctor of Science and Law
DScD	Doctor of Science in Dentistry
DScVM	Doctor of Science in Veterinary Medicine
DSSc	Doctor of Social Science
DSW	Doctor of Social Work
ThD	Doctor of Theology

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